Cp971.65
W74c1
cop 2

WILMINGTON,
NORTH CAROLINA.

PAST, PRESENT AND FUTURE.

HISTORY OF ITS HARBOR,

WITH

DETAILED REPORTS OF THE WORK

FOR IMPROVING AND RESTORING THE SAME,

NOW BEING CONDUCTED BY THE

U. S. Government.

RESOURCES AND ADVANTAGES

AS AN ENTREPOT FOR WESTERN CITIES.

HARBOR OF REFUGE,

AND

COALING DEPOT FOR THE NAVY

AND

MERCHANT MARINE.

PUBLISHED BY ORDER OF THE CHAMBER OF COMMERCE.

1872.

WILMINGTON, N. C.
J. A. ENGELHARD, STEAM POWER PRESS PRINTER,
JOURNAL BUILDINGS.

1872.

EX LIBRIS

STEPHEN B. WEEKS
CLASS OF 1886; PH.D. THE JOHNS HOPKINS UNIVERSITY

LIBRARY
OF THE
UNIVERSITY OF NORTH CAROLINA
THE WEEKS COLLECTION
OF
CAROLINIANA

Cp971.65 W74c1
c.2

WILMINGTON,
NORTH CAROLINA.

PAST, PRESENT AND FUTURE.

HISTORY OF ITS HARBOR,

WITH

DETAILED REPORTS OF THE WORK

FOR IMPROVING AND RESTORING THE SAME,

NOW BEING CONDUCTED BY THE

U. S. Government.

RESOURCES AND ADVANTAGES

AS AN ENTREPOT FOR WESTERN CITIES.

HARBOR OF REFUGE,

AND

COALING DEPOT FOR THE NAVY

AND

MERCHANT MARINE.

PUBLISHED BY ORDER OF THE CHAMBER OF COMMERCE.

1872.

WILMINGTON, N. C.:

J. A. ENGELHARD, STEAM POWER PRESS PRINTER,

JOURNAL BUILDINGS.

1872.

Digitized by the Internet Archive
in 2012 with funding from
University of North Carolina at Chapel Hill

http://archive.org/details/wilmingtonnorthcwilm

PREFATORY.

The publication of the following documents is, of course, made to forward the interests of our city.

From the Congress, to whom we look for the means for *restoring* our harbor, *damaged by work of the public authorities*, we ask a careful consideration of what we consider our *just* dues. The statements made herein, can, in every important particular, be verified by charts and documents in the possession of the Government, deposited in the Public Library and with the Coast Survey Department, and are generally known by the officers of the Engineer Department, whose attention has been particularly called to the subject.

We direct the especial attention of the cities and towns of the West and Northwest, to the great advantages of a connection with us, and the manifest *interest to themselves* in having our Harbor restored, so as to put them in easier and cheaper reach of a seaport, through which to distribute their products and receive in return their importations from any part of the world.

With a first class harbor, which we can safely look for, if the work now progressing is completed, the natural advantages of our port will be seen at a glance, and we shall soon become a great market for heavy goods of every description, and offer, to all within reach of us, inducements not now to be found.

Wilmington, N. C., February, 1872.

ON THE TRADE

OF WILMINGTON, NORTH CAROLINA, AND OF THE PRODUCE EXPORTABLE FROM THE RIVER CAPE FEAR, THE SEASON AND PROSPECT TAKEN INTO VIEW, MAY 1ST, 1815.

BY JOSHUA POTTS.

Wilmington, though but a small port, affords in season and in proportionate quantities, nearly all the various kinds of produce that are to be found in the growth of the United States, collectively—such is the effect of an intermediate climate, an extensive territory of different soil, and diversity in occupation of numerous inhabitants.

Portable articles of Produce are brought from the interior country, by land carriage, to inland towns on the head of boating navigation; thence they are carried down to Wilmington in large flat boats, calculated for that purpose.

In the lower part of the country, transportation of Lumber Naval Stores, Timber and Spars, is facilitated by rafts, conducted by a few hands down numerous rivers and creeks.

In times of uninterrupted commerce, many ships and vessels of considerable burthen were annually loaded here and bound for European ports with cargoes of Naval Stores, Tobacco, Flaxseed, Cotton, Rice, and large Timber of Pitch Pine; their cargoes were dunnaged and stowed with Staves.

Our produce is particularly adapted for the markets of West India Islands, and when we have a free trade, many vessels, of Wilmington and the Northern States, during winter and spring, load here, and depart for the West Indies in as many directions as there are Islands, their cargoes assorted with Lumber, Flour, Rice, Pork, Bacon, Lard, Butter, Tobacco, Tar, Live Stock, &c.

A proportion of our produce is transported coastwise to various ports, but that of New York the principal—and vice

P 6530

versa, the merchants and dealers of Wilmington and Fayetteville are generally furnished with a variety of merchandize from sundry ports on the Northern coast—especially from New York. Regular packets ply between Wilmington and New York.

Excellent crops of various kinds of produce are annually produced throughout this country. Our market opens in November, is brisk in December, increases in January, February and March—slackens in April—declines in May, and ends in June. The Summer and Fall months, in regard to trade, are dull, and the Fall sickly.

Those kinds of our produce, of the *first importance*, are noted for the present year as follows :

Tobacco is raised only in the upper country ; is brought and inspected at Fayetteville, at the head of boating navigation, ninety miles above Wilmington. It may be had at Fayetteville, almost at any time of the year ; but is more plenty between December and March. Of late years the quantity has been reduced, and the culture of *Cotton* substituted, as being less precarious, less toilsome, and of more profit than Tobacco. Within the last fifteen years, Tobacco has been lessened in culture more than one-half of former crops. Its quality has been said to have been inferior to that of Virginia, but of late it has been produced of amended goodness, and some of it prime. In the first place, it is uniformly purchased from the planters by merchants at Fayetteville, and by them either exported to Europe or sold again in the United States.

Cotton, Upland, is but of recent cultivation in this State, and is increasing in quantity ; the quality is said to be equal to that of South Carolina or Georgia. The planters, at first, put up their Cotton in round bags, but of late much of it is packed in square bales. There is no inspection of Cotton.

Rice—A fine crop is raised chiefly in the vicinity of Wilmington, near tide-water, of quality equal to any in the Southern States ; and a charge for the rough casks which contain it, is always made by the planters.

Flour—The usual crop of considerable quantity : of late

years subject to a good inspection, and marked under several qualities; the superfine is said to be equal to that of the Middle States.

CORN is seldom either plenty or cheap in Wilmington. The country around does not produce it in sufficient quantity for exportation.

TAR is not made in as large quantity as formerly, nor is it produced and brought to market with the same ease;—it is an article subject to waste, and the price generally low.—Countrymen, in many instances, have paid attention to Cotton and Timber; and numerous inhabitants of that description have removed to the Western States. Since the return of peace, however, the demand for Tar and Turpentine has raised the value of those articles to an encouraging price. It is rafted to Wilmington, and after having been coopered and inspected, is transported coastwise, and a proportion shipped for European ports.

TURPENTINE is seen at market from June to December. In consequence of the late war, the quantity has been reduced, and prices depressed; the present demand, however, has enhanced the value. There is a scarcity at present.

FLAXSEED, as well as Tobacco and Flour, is raised in the interior of this country. It is first contained in bags, and brought in waggons to Fayetteville, and there measured and sold by the bushel, usually from 90 to 120 cents, according to prospect. The purchasers at Fayetteville have it there perfectly cleaned in machines for that purpose, and put up in casks of oak, well made, each containing seven bushels.—When commerce is free, the price of a cask of Flaxseed at Wilmington is generally between ten and eleven dollars.—There is no inspection on Flaxseed.

LUMBER, many kinds and of superior quality, is brought plentifully to market during the winter and spring. Plenty of sawed Boards, Planks and Scantling, of fine grained Pitch and Yellow Pine. Pine Timber and Spars of any size may be had. Shingles of Cypress, 22 inches in length, are plenty, generally thin and light, but proportionally cheap. Shingles of Juniper, well drawn and rounded, may be had from a distance, on timely notice.

Staves are not to be had here in quantity sufficient to furnish cargoes of vessels; they are, however, to be had during winter and spring, and wherewith cargoes of other produce are dunnaged and stowed. Staves are, however, at times so plenty as to compose the principal part of a vessel's cargo. White Oak Hhd. and Barrel Staves are never plenty; the growth of the tree is confined to narrow limits on the borders of the River Cape Fear. Red Oak Hhd. Staves are to be had in larger numbers than those of the White Oak, and are always more than proportionably cheap.

Produce of Minor Importance.

Bacon—Hams, Shoulders, and Middlings, of excellent quality, are to be had in market, from January until May.

Butter comes chiefly from the mountains and back country, roughly put up in tubs and kegs—the season from November 'till March. It is subject to inspection.

Beeswax is seen generally in small quantities, and is carefully bought up by a few monopolizers of that article. It is often sent from Wilmington to New York and to Charleston.

Brandy, of Apples and Peaches—also,

Whiskies, distilled from grain, have lately been greatly increased throughout this country. The consumption of them already far exceeds the quantity of foreign distilled spirits; and from the economical disposition of our planters, the probability is, that, in a very few years, the current use of domestic spirits will entirely supercede those of foreign distillation.

Beef is seldom barreled up in this country. The quality is sound, but lean and inferior.

Corn Meal has never been exported hence. It is brought to Wilmington raw, and only in small quantities, for the use of the inhabitants.

Pork is put up only in small parcels, the quantity about sufficient to furnish vessels with sea stores, and to assort cargoes bound for the West Indies. The quality sound and good, but not very fat.

Lard comes to market in kegs and tubs of various sizes not well put up—the quantity not an object.

Tallow is produced in small quantities, of which candles are made and used in Wilmington, and on board vessels.—Sometimes a few casks of Tallow are shipped coastwise.

Deer Skins and Furs are poor articles, both in quantity and quality.

Peas—Black-eye, &c., are of precarious growth and perishable quality. The quantity attempted to be raised is but small;—they serve to provision crews of vessels, feed negroes, milch cows, &c.

Live Stock—Cattle and Hogs are uniformly raised by nature in this part of the country. Cattle are small and weakly, and cannot bear their passage to the West India Islands. Hogs are raised by mast or acorns, and in the months of November and December are in sufficient plight to be shipped to the West Indies. Poultry are generally plenty for the use of the inhabitants and for sea stores.

Pitch—Seldom any has been brought to market of late years. Tar burners seem to have declined reducing Tar to Pitch.

Rosin, Spirit of Turpentine, Spirit of Tar, are made only by persons in possession of Stills proper for those purposes; and they continue the quantity on hand small, merely to answer the small demand that may occasionally happen—but should at any time large parcels of these articles be required, the purchaser could be speedily furnished.

Remarks.

It is unadvisable, and often disadvantageous, for a merchant in a distant State or foreign port, to dispatch a ship to Wilmington under orders for a cargo of our produce, without first having written to his correspondent of particulars required. Four to six weeks previous notice to the agent is always requisite, that he may have time and opportunity to procure the produce described, at the best advantage, and have it in readiness by the time of arrival of such ship.—Great detention and disappointment often happen in consequence of voyages being abruptly commenced; as but seldom peculiar kinds of produce can be had on sudden notice.

Inspection of Produce is established by law throughout North Carolina. A clause enacts that the shippers thereof shall pay the fees of inspection on the several articles as follows, viz: Rice, Flour, Pork, Lard, Beef, Butter, Tar, Turpentine, Pitch and Rosin. The rates are low.

On Lumber, the buyer and seller equally sustain the charges of inspection and delivery. Custom supercedes a law for inspection of lumber. The fee is small.

At the Port of Wilmington, every article of produce and merchandize are, by custom, sold, bought, delivered and received by short or exact weight, measure, or number, and nothing by the long hundred or thousand. For instance,

A ton of Iron, Cordage, &c., is only		2,000 lb.
A hundred weight of Sugar, &c.		100 lb.
A thousand Staves or Shingles	pieces	1,000
A ton of square Timber	solid feet	40
A barrel of Tar, by law	gallons	32
A bbl. of Turpentine or Pitch, by averaged weight, gross		320 lb.
A barrel of Pork, nett		200 lb.
A barrel of Flour, nett		196 lb.

Cash, or suitable bills, (commonly drafts on New York,) are the only funds that will command either Tobacco, Rice, Cotton or Flaxseed.

Salt.—The season for Salt commences in September, and continues during October, November and December. Afterwards the demand slackens, and by March there is no call for it.

Considerable quantities of *Liverpool Salt* were formerly imported, but during our Restrictive Acts, and nearly three years continuance of the late war with England, scarcely any has been brought in. Coarse Salt of late has arrived tolerable plenty, and although subject to a duty of about thirty cents per bushel, the last sales per cargo were per bushel at sixty-five cents.

Liverpool Ground Salt is always preferred at Fayetteville to any coarse Salt, at the same price, owing to weight of waggonage up the country, Liverpool being the lightest, per bushel.

For a few years since, while commerce was under restriction, and during the late war, sundry Salt Works were erected on the Sound, near Wilmington, which, towards the last of the war, highly rewarded their several proprietors. But, since the return of peace, the price of home-made Salt has, consequently, fallen to that of similar quality imported. Notwithstanding, the domestic works will be continued in operation. They will be productive of profit, so far at least as the duty on foreign salt may be extended.

The manner of producing what is here called Sound Salt, is by means of vats constructed with boards, into one of which the salt water is brought by pumps worked with wind. Three vats constitute one sett, and the sea water under evaporation, after having deposited the druggy and slimy parts, is timely drawn from one reservoir into another, by which process the chrystalized Salt becomes of the purest quality. The grain is of the size called hominy salt, or larger, and the quantity annually produced, within eight to twenty miles of Wilmington, is already more than thirty thousand bushels.

Main Bar of Cape Fear, high water at 7 o'clock at full and change of the Moon, depth 18 feet.

New Inlet Bar, high water at 7 o'clock at full and change of the Moon, depth 11½ feet.

Tides on each Bar, perpendicular, 5 to 6 feet.

Flatts, ten miles below Wilmington, to town, 11½ feet.

Course in, over the Main Bar ;—when in five fathoms water, the Light House used to bear North half East, but, unfortunately, a couple of years since the sea encroached on the shore* and destroyed the Light House ; and within a few years an angle to the westward has been formed in that part of the channel which was formerly straight, by which circumstance the navigation over the Main Bar has become more difficult. Pilots generally attend in time to conduct vessels in safety.

*Why? Because the River current had been depreciated to that extent in volume and force, by the opening at New Inlet, as to be overcome by the current and force of waves of the ocean ; thus permitting the ocean waves and current to gradually wear away the shore. H. NUTT.

Lighterage, between the Flatts and Wilmington, comes on all vessels above $11\frac{1}{2}$ feet.

Also, between Main Bar and Flatts, at high water, are Shoals of $14\frac{1}{2}$ feet.

Wilmington is situated on the east side of Cape Fear or Clarendon river, and lies North 30 miles above the Main Bar, and 20 miles above New Inlet.

REMARKS

ON THE TRADE OF WILMINGTON, NORTH CAROLINA, AND ON THE PRODUCE EXPORTABLE FROM THE RIVER CAPE FEAR, TAKEN INTO VIEW 1ST AUGUST, 1843.

BY ROBERT W. BROWN.

WILMINGTON affords, in season, and in proportionate quantities, nearly all the various kinds of produce that are to be found in the growth of the United States collectively. Such is the effect of an intermediate climate, an extensive territory of different soil, and diversity in occupation of numerous inhabitants.

Portable articles of produce are brought from the interior country, by land carriage, to Fayetteville, at the head of boating navigation; thence they are carried down to WILMINGTON by well constructed Steamboats and their numerous Towboats, comprising a flotilla on an extensive scale, qualified to carry large quantities of merchandize up and produce down; and when the river is not too low for Steamboats to run all the way, greater despatch is not given in any part of our country. At those periods of low water, which occasionally happen, the transportation is facilitated by the smaller flat Towboats, aided speedily by the Steamboats, so far as

the latter can proceed. We have also the additional route of Rail Road, 161 miles as noted below, in another direction.

In the course of many years practice of the author in his agency for numerous merchants of the interior, and since the establishment of Steamboats, he has had goods delivered at *Fayetteville*, within a week and ten days, from New York, and the merchants and farmers of the back country, hitherto trading extensively with South Carolina, must find their way to the convenient seaport of their own State, and *Wilmington* can produce a market for export and import, with all necessary facilities. The larger vessels for foreign trade and the smaller for coasting, have the advantage of two Bars—the New Inlet and the Main Bar to pass in and out.

In the lower part of the country, transportation of sawed Lumber, Staves, Naval Stores, Timber and Spars, is facilitated by rafts, conducted by a few hands, down numerous rivers and creeks.

Many ships and vessels, of considerable burthen, are annually loaded here, and bound for European and West India ports, with cargoes of Naval Stores, Tobacco, Flaxseed, Cotton, Rice, Pitch Pine Planks, Timber and Staves.

Our produce is particularly adapted for the markets of the *West India Islands;* and the shipping of Wilmington and the Northern States, as well as foreign vessels, during winter and spring, load here and depart for the West Indies, in as many directions as there are Islands ; their cargoes assorted, with sawed Lumber, Staves, Shingles, Flour, Rice, Pork, Bacon, Lard, Butter, Naval Stores, &c.

A large proportion of our produce is transported coastwise, to various ports, but those of New York, Philadelphia, Baltimore and Boston, principally ; and *vice versa*, the merchants and dealers of Wilmington and Fayetteville, embracing the extensive interior of the state, are furnished with a variety of merchandise from sundry ports on the northern coast, especially from New-York. Regular packets ply between Wilmington, New York and Philadelphia. Steamboats of good capacity ply on the river below Wilmington, for passengers, freighting and towing. The healthy summer retreat at Smithville, is much resorted to.

Excellent crops of various kinds of produce are annually produced throughout this country. Our market opens in November, is brisk in December, increases in January, February and March, slackens in April, declines in May, and ends in June. The summer and fall months, in regard to trade, are dull; rivers generally low; crop season with the country people; a relaxation in town; and consequently business generally is less active, except the ordinary preparations for renewal of the fall trade, and the importation of large quantities of goods, for their passage to the interior, which is a steady employment from July to November. This business demands the constant vigilance, care and presence of the consignees and parties entrusted with it, during the most unfavorable period of the season.

A *new route* is now established by the Wilmington and Raleigh *Rail Road*, through the North Eastern counties of the State, leading to Weldon, on the Roanoke, and thence to Norfolk or Petersburg. Splendid Steamboats, built for the purpose, and second to none in the United States, ply between Wilmington and Charleston, conveying with great comfort, and comparatively no risk, the mail and passengers, which route, as already ascertained, is admitted to be one of the best in the whole country, avoiding the great hazard of Capes Hatteras, Lookout, and Frying Pan, in a short seascope between Cape Fear and Charleston Bars, so far as passengers are concerned.

The TRADE too has commenced upon this route with the rich and fertile counties of the East, whose inhabitants are ready to embrace the great facility in prospect of finding at Wilmington a market for their valuable productions. It is only necessary to have the supply to insure demand.

Those kinds of our produce, of the first importance, are noted as follows:

COTTON.—Upland in moderate supply the last year or two. The quality is similar to that of South Carolina or Georgia, now mostly packed in square bales, and delivered at market in excellent order. Freight to England, chiefly Liverpool, varies as to circumstances 1-2 *a* 5-8*d*., and it often occurs,

that cotton purchased by order, is shipped coastwise to New York, where it takes the chance of a good market, or forwarded by packet to England or France. Shipments to France direct are made from Wilmington. Both Cotton and Rice can be obtained and shipped.

Rice.—A fine crop is raised, chiefly in the vicinity of Wilmington, near tide water, of quality equal to any in the Southern States. And indeed, we have often heard a preference expressed for the Rice on this river. Charleston dealers send for it, to clean there (and export) in the rough, &c. The quantity made is about 200,000 bushels. There is now an extensive *Steam Mill*, besides sundry Water Mills, which enable us to furnish in due season, the whole crop of this article, and greatly add to our supply of clean Rice for export from the port of Wilmington. The quantity may now be fairly estimated at about ten thousand tierces. In consequence, dealers may expect less disappointment in supplies, and at fair prices. A Steam Mill, recently erected at New York, has made demand upon our rough rice, and takes it coastwise. By custom, the purchaser pays 50 cents for each cask, and 8½ cents for inspection. The casks are of various sizes, from 300 to 600 pounds nett. About the middle of November, to the first of December, we get the first new Rice to market.

Tobacco is raised in the upper country; is brought to and inspected at Fayetteville, at the head of boating navigation, 90 miles by land, and 140 by water, above Wilmington. It may be had at that place almost any time of the year, but is more plenty between December and March. In the first place, it is uniformly purchased from the planters by merchants at Fayetteville, on their own account, or by order, and sent down to Wilmington, for sale, or to be shipped. Many ships formerly loaded with Tobacco at this port for Foreign markets.

Flour is expected to be fine this year—the crops of Wheat throughout are represented as excellent. It is inspected and branded at Fayetteville, under several qualities, and at present, no charge of inspection to the shipper here.

The cross middling, fine and superfine, generally sent down together. It is not always practicable to procure *superfine* alone. Quality good. Inspection improved.

WHEAT is brought into Fayetteville by wagons, where it is bought, cleaned at mills, and put up in casks of seven bushels or bags, and sent down to Wilmington for sale or to ship.

CORN.—The country immediately around does not produce it in sufficient quantities for exportation to any extent. We have it frequently from the *North counties* in this State, brought round in vessels, and also from Maryland. The demand this year has been uniformly good, and sold at full prices. The adjoining counties have had satisfactory accounts—the consumption seems to have increased.

TAR has been made in considerable quantities; it is an article subject to waste. The very low price at which this article ruled for several years, had the effect at last to drive the makers of it to other business—cutting timber, &c., which, with some removals of that class of persons from this region, rendered Tar more scarce. It is rafted to Wilmington, down rivers and creeks, and bought of the country people by the raft, from 20 to 300 barrels, afloat; after which, it is landed on a wharf, inspected and coopered—the purchaser always paying inspection of two cents per barrel, cooperage, wharfage, and the landing charge; the whole expense about 12 cents per barrel, including one week's wharfage. Our cooperage is good, and attentien is paid to pumping, in order to clear it of water as much as possible. *January* to *May* is the season when Tar is most plenty.

TURPENTINE is seen in market from June to April. We generally get the greatest quantities from the 20th of November, until about the last of February. Before and after these periods, it comes in smaller parcels. After heavy rains, and during high freshets, we have considerable quantities down at once; and often, at such time, the supply offered for sale reduces the price. Turpentine is rafted and sold as Tar, subject to inspection and like expenses. The buyer, from custom, pays for the whole raft, as landed, including

hard or scrapings as well as soft; the hard, however, at less price—one-half the rate paid for soft. By custom and law of the State, it is weighed, taking 320 lbs. gross as the barrel. Our barrels are generally large, and when packed overgo that weight. Usual crop has been 100,000 to 140,000 barrels. I will further add, in regard to this article, that on inspection, after the inspector has tried each cask at the bung with a rod, he weighs a small portion of the lot, by which the whole purchase is averaged. Inspection, 3 cents per barrel. The crop of 1843–44 is expected to reach 200,000 barrels. The railroad route delivers a large proportion of Turpentine to market, which is in addition to the rafting process. The several distilleries now established, for working up turpentine in the home market, consume weekly 1500 barrels of that raw material, and has become a great item of business *here*. They produce Rosin, Spirits Turpentine, and make Varnish and Pitch.

Flaxseed as well as Tobacco and Flour, is raised in the interior of this country. It is first brought in wagons to Fayetteville, and there measured and sold by the bushel.—The purchasers have it cleansed in machines, and put up in oak casks, each containing seven bushels. Flaxseed is an article, in regard to the quantity of which an accurate estimate cannot be formed. The seed is sown with no other view than to produce Flax for domestic purposes; gathered in quantities and brought to market, from the first of September to the fifteenth of January—principally in November and December. In common, the quantity received depends materially upon the price. Crops of former years, about 3000 tierces. Of the last seasons, the quantity exported and shipped coastwise, only about 9 to 1500 casks. There is no other market in the Southern States where it is purchased to any extent. No inspection.

Lumber—Many kinds, and of a superior quality, are rafted plentifully to market during winter and spring, from *water mills;* say, sawed boards, plank and scantling, of fine grained pitch and yellow pine, promiscuously sawed however, unless previously contracted for, and thus sold *by the raft*, at a

rate to be agreed on, turn out as it may; *Refuse* at half-price, and is commonly so shipped altogether. Expenses of re-rafting or landing, and inspection, paid by the purchaser.—Pine timber and spars, of any size, may be had upon previous notice to contract with the country people; and at a time when the waters are sufficiently up for rafting. *Five* well constructed STEAM SAW MILLS are erected in the vicinity of the town, and *now in operation*, where lumber of any lengths or sizes may be furnished, and delivered to vessels bright from the saws. The quality is excellent—sawed from square logs of good timber. The increased demand for our lumber coastwise, and steady calls for it throughout the West Indies, has vastly increased the trade and employment of vessels.—Half the inspection is charged at those Mills, and their prices are uniform. The lumber trade is also benefited by the establishment at Orton, 15 miles *below Wilmington*, of two excellent *Saw Mills*, carried by a never-failing water power from a pond of seven miles in extent, supplying lumber from square timber equal to that of the Steam Mills, and at same rates. In a contract with those mills, vessels meet as good despatch as at any other.

An extensive *Planing Mill* is also erected at this place, where flooring and all other descriptions of Boards are supplied for domestic use as well as foreign demand.

SHINGLES, of Cypress, 22 inches in length, are plenty, and often good; and may be contracted for to be brought of better quality and larger size. Demand the past season was good. Demand this summer has been less, and a corresponding falling off in supply—ruled from $1 50 to $4 per thousand. Shingles, of Juniper, 18 inches, may be had on timely notice, during the winter.

STAVES are not to be had here in quantities sufficient to furnish *cargoes* of vessels, but can be had during the winter and spring, wherewith cargoes of other produce are dunnaged and stowed. At some periods, however, so plenty as to comprise the principal part of a vessel's cargo. W. O. Hhd. are not always plenty, barrel generally scarce. It is but seldom they turn their attention exclusively to making barrel staves,

and they are made only of timber not long or stout enough for hhd. For West India market, W. O. Hhd. Heading are required, and of those we seldom get a sufficient proportion. The growth of the tree is confined to narrow limits on the borders of the river Cape Fear. *Red Oak* Staves are to be had in larger numbers than those of the White Oak, and are proportionably cheap. *Pipe Staves* are never made here.—All our staves are generally very good. In the further progress of railroads and opening to the country, we shall expect to find our Stave supply revive.

Main Bar of Cape Fear, high water at 7 o'clock, at full and change of the moon; depth formerly 18 feet, but the Pilots now say only 13½ to 15 feet.

New Inlet Bar, high water at 7 o'clock, at full and change of the moon, 10 to 11½ feet.

Tides, on each Bar, perpendicular, 5 to 6 feet.

Flatts, 5 to 6 miles below Wilmington, 10 to 11½ feet.

Pilots generally attend in time to conduct vessels in safety; and there is now two decked boats in use, besides many open boats.

Course in, over Main Bar, is much more *direct*, and less difficult than formerly:—a Light House on Bald Head Island, as also a lighted Beacon at New Inlet.

Lighterage comes on all vessels above 10 to 12½ feet at present, in consequence of some operations on the river below town, which were commenced with a view to improvement.

Also, between Flats and Smithville, at high water, are shoals 14 feet; consequently, vessels that load deeper than 14 feet, must go down to Smithville to complete their cargoes. 13½ to 15 feet water may be carried out over Main Bar; 10 to 11 feet, New Inlet.

WILMINGTON, N. C.,

ITS PRESENT AND FUTURE.

FEBRUARY, 1872.

It is proposed, in the following, to give a succinct view of the Commerce of Wilmington at the present time, its commercial advantages as an entrepot for many cities and towns of the great West, and, after the restoration of its harbor, now receiving attention from the General Government, its necessarily great future.

Those interested in the past are referred to the remarks of Joshua Potts, Esq., on the Trade of Wilmington in 1815, and those of Robert W. Brown, Esq., in 1843; and it is suggested that a comparison of the statistics of the present with those above referred to, contain matters of interest.

Taking the harbor *as it was*, and, as it is confidently expected by those who have studied the matter, *it will be again*, by a judicious management of the Government Works now going on, and completed, we have a capacious harbor, easy of access with winds from almost any quarter, perfectly land-locked, and the approaches to the Bar well protected from the principal storms on our coast, with good anchorage outside.

Lying to the Southward of all the dangerous Capes on the coast which would interfere with navigation or voyages to and from all Southern, West Indian and South American Ports, as well as to Europe, a considerable saving in the single item of marine insurance is made.

By reference to the report of exports hence, it will be seen that we furnish cargoes of every thing required in the markets of the West Indies and South America, with perhaps the single exception of Flour, which will soon be within our grasp. Hence we are enabled to furnish full cargoes *outward*, and the return voyage with cargoes of Sugars, Coffee, Fruits, Molasses, and other tropical products would be laid down in our market *cheaper than in any other on the coast.*

Again, being "headquarters" for Spirits of Turpentine, Rosins, Tar, Pitch, Lumber, Timber, &c., we are enabled to furnish the European markets with these products on the best terms and to receive cargoes in return of their products and manufactures laid down at as low cost as in any other port.

This being a great Rail Road centre, with one line extending Southward and Westward through the Gulf States; with another, in course of completion, extending its arms almost in an *air line* to Cincinnati, Louisville, St. Louis, Chicago and other cities of the great Northwest; another extending Northward and connecting with lines to every point of the country, offer every facility for the safe and rapid distribution of importations, and for the return of the products of the whole country for exportation.

By reference to the maps of the country, it will be seen that our claim of being the *nearest Port* to Cincinnati, Louisville, and other cities of the West is a *literal fact*, the advantages of which it is unnecessary to detail to those interested.

Steam communication on the Cape Fear River is had with Fayetteville, and by a comparatively small outlay for improvement of the navigation of the upper rivers, which is in part complete, would put us in easy reach of the great deposits of Iron, Coal and various other minerals in which the valley of Deep River abounds. The development of these mining interest, only awaits the restoration of our harbor. Then, the value of this Port to the General Government as a coaling and Naval Station, can hardly be estimated.

The trade of this Port is steadily and constantly increasing, and as our harbor improves will continue to do so in more rapid proportion.

Since the late "war between the States" the article of Rice, which was at one time among our principal articles of Export, has almost ceased to be produced, owing to the indifferent and hard to be controlled labor. The crop will not now exceed 10,000 bushels, not enough for home demand.

The production of Cotton in this State has been very

largely increased, and although no accurate figures can be given, in consequence of a large portion leaving the State, via the ports of Virginia and South Carolina, it is believed that the crop amounts to at least 200,000 bales. At this port is handled Cotton from Georgia and South Carolina, as well as our own State, and during the year 1871 there were exported, principally coastwise, over 95,000 bales. The extension of the Wilmington, Charlotte & Rutherford Rail Road and its completion, will, it is estimated, at least *double* our receipts of "the Staple."

Spirits of Turpentine is manufactured to a considerable extent in the city, and the whole pine region of this State and South Carolina is dotted with numerous distilleries worked by owners or tenants of the forests. Most of the products find their way to this market.

Exports of Naval Stores for the past year from this Port have been as follows :

Spirits Turpentine,	bbls.,	Coastwise,	64,862,	Foreign,	47,162
Rosins,	"	"	441,341,	"	127,100
Tar,	"	"	31,993,	"	5,874
Turpentine,	"	"	17,126,	"	836

Leaving stocks in Port of Spirits Turpentine, 7,299 barrels ; Rosins, 72,166 barrels ; Tar, 2,640 barrels, and Crude Turpentine, 2,842 barrels.

Pitch is manufactured in sufficient quantity only to supply the demand, and the reputation of " Wilmington Pitch " is excelled by none. The manufacture of this article is confined to the distillers of Turpentine in this city, very little being made in the country.

These articles alone show material to occupy quite a fleet of vessels. In this connection, it should be stated that no vessel has ever been obliged from choice to leave this Port in ballast!

The Timber and Lumber trade, though not what it was fifteen years since, has steadily increased since the war, and should soon reach and exceed its former figures.

Our Shingles, (Cypress and Juniper, or Cedar,) have an established reputation in the Northern and West India

markets, and may be had in quantity to suit any demand, from the wide extended and heavily timbered swamps on our water courses and Railways.

Staves could be had of the best white or red oak to supply any demand. At present they are called for almost entirely for home consumption.

Our principal supplies of Corn reach us by sea from the Eastern counties; but our rail connections with the West will soon throw the corn and other grain from that section into competition.

The supplies of Wheat, Flour, Tobacco, Bacon, Pork, Butter, Beef, Lard, Tallow, Beeswax, Whiskey, Brandy, and other products and manufactures can be laid down here as cheap as any point.

Peanuts are produced to considerable extent in the surrounding country and form quite a feature in our Domestic exports. The crop of 1870-'71 amounted to about 100,000 bushels of an aggregate value of $200,000. The crop this year is largely in excess.

Among the manufactures of interest and value should be mentioned *Cane Fibre*, by a patented process from the swamp cane with which our swamps abound, and which is reproduced in three years after cutting, and of a quality superior to the original growth. The prepared fibre is used in the manufacture of paper and *papier-mache* goods.

Barrel Shooks are manufactured to a great extent and shipped to Northern markets for the reception of syrups from Sugar manufactories.

Fuel for manufacturing purposes is very cheap, and principally of the surplus sawdust and shavings from Steam Saw and Planing mills, which may be had for the asking. Pine wood is in abundance at low prices.

Banking facilities are by no means sufficient to meet the demands of trade; but as our people recuperate more steadily from the disastrous effects of their late struggle, this want is being supplied.

In present condition of our Bar and River, vessels drawing over 12 to 12½ feet require to be lightered to and from a

point outside the "Rip" whence they can always sail with 15½ to 16 feet.

Our harbor restored, we confidently expect to find at least 20 feet at mean low tide on the Bar (with a rise of tide 4 to 5 feet,) and the removal of obstructions in the River, placed there by the authorities during the Revolution of 1776, will give us ample water to our docks.

From the Reports of the Engineers in charge of the work of restoring the harbor, it will be seen that the work accomplished is quite satisfactory, and by comparison with the regular monthly reports of the Committee of the Chamber of Commerce, that the progress of the work is steady, and from the gradual formation of sand beach on the outside, almost keeping pace with the work itself, that *Nature is doing her part fully in securing* the structure, and this fact assures us of the *permanency* of the work. Of the *effects* of the work on our Bar; it will be seen that there is a constantly, though very gradual increase of depth, and the opinion generally prevails that the continuation of the work to completion, on the general plans as suggested, modified from time to time as may be necessary from the action of nature, will without doubt result in the *complete restoration* of our harbor to its former capacity. The future of our city is then *guaranteed!* And the inducements offered for cheap and short transportation to a first-class harbor on the coast, and for the same by sea to any part of the world, will bring to our market sufficient produce to employ a fleet as large as is necessary in any part of the country.

A great deal rests with our own merchants as to whether these predictions, for early fulfillment, shall be realized; and it becomes the plainest duty of each and all of us to use every *honorable* exertion to effect a consummation of our plans.

WILMINGTON, N. C., 15th January, 1872.

Col. Wm. L. DeRosset,

President of the Chamber of Commerce:

Sir—At the regular meeting of the Chamber, on the 11th inst., a resolution was passed requesting the Committee on Bar and River Improvements to collate all their reports and communications to the Chamber, relating to Cape Fear river and its improvements; also, statistics and facts in its history, with the probable, direct, and lateral bearing and influence which these improvements may have (if successfully carried out) upon our commerce, trade, agriculture, and general progress. In answer to which, your Committee beg leave to report:

We herewith present duplicates of all the reports which have been published, which we can find. Several reports made to the Chamber in the early history of the work, memorials to Congress, and correspondence, of which duplicates were not preserved, have been lost or mislaid.

The earliest reliable information we have of the Cape Fear river, its entrance and harbor, is to be found in a Map by Edward Moseley, in 1733, and another by James Wimble in 1738. Both of these maps, although apparently imperfect, compared with similar maps of the present day, nevertheless represent the harbor as capacious, of good anchorage, well land-locked, easy of access, and with four (4) fathoms water upon the bar, (supposed at mean low tide.) About this draught of water was carried by a bold and direct channel on the East side of Big Island, to the town of Wilmington.

The next we hear of the Cape Fear River is through Wheeler's History of North Carolina, (extracted from the London Magazine,) giving an account of the most violent equinoctial storm which had ever occurred upon the coast, forcing open an entrance into the river, at a point known as the haul-over, now known as the New Inlet. This storm commenced on the 20th of September, 1761, and lasted for four days.

This Inlet, from long neglect, has become formidable, detracting a large portion of the river water from its legitimate outlet, to the great detriment of the river and lower harbor.

In 1775, a Map of Cape Fear River (more accurate in its details than the two first alluded to) was published in London, which laid down the New Inlet, but does not materially vary the harbor, outlet, or draught of water upon the bar, or the channel of the river up to the town of Wilmington.

At a meeting of the Safety Committee of Wilmington, held on the 20th of November, 1775, John Ancrum presiding, the following preamble and resolutions were passed:

"The Committee, taking into consideration the damage with which the inhabitants of the Cape Fear River are threatened by the King's ships now in the harbor, and the open and avowed contempt and violation of justice in the conduct of Governor Martin, who, with the assistance of said ships, is endeavoring to carry off the artillery, the property of this province, and the gift of his late Majesty of blessed memory, for our protection from foreign invasions, have

"*Resolved*, That Messrs. John Forster, William Wilkinson, and John Slingsby, or any one of them, be empowered to procure necessary vessels, boats, and chains, to sink in such part of the channel as they or any of them may think proper, to agree for the purchase of such boats and other materials as may be wanted; and to have them valued, that the owners may be reimbursed by the public: *And it is further ordered*, that the said John Forster & Co. do consult the Committee of Brunswick on this measure, and request their concurrence."

A knowledge of the men of that period, with the boisterous circumstances which surrounded them, is sufficient evidence that this order was implicitly obeyed and effectually executed, no report of their action being required or expected.

Tradition assures us that these obstacles were placed across the channel at Big Island. We therefore feel justified in saying that the channel, as laid down by all previous maps, was, at that time and place, obstructed agreeably to the order, as subsequent events would seem to imply. From time to time, logs, stumps, and other drift matter, brought down by freshets, lodged against the obstructions, backing up nearly to the narrows, and forming what is known as the flats or shoal of logs, which, as it increased, gradually forced the water through an opening on the West side of Big Island, and in course of time scoured out a channel sufficient to ac-

commodate the commerce of the port, and so remained until about the year 1826.

In the year 1797–'98, a survey and map of Cape Fear river, its harbor and outlets, was made by Joshua Potts. At this time, thirty-seven years after the breaking out of New Inlet, we find very little alteration in the harbor or outlet.—The Bar representing twenty feet of water, (supposed at mean low tide,) while the channels of the river up to Wilmington had undergone material change, and very much depreciated.

About the year 1820, the State of North Carolina (failing to interest the General Government in the matter) undertook the improvement of the navigation of the river. The work was placed in charge of Hamilton Fulton, a Scotch engineer of some celebrity, who prosecuted the work for several years with little success, not seeming to comprehend the difficulties in the way of restoring the old Eastern channel, when, about the year 1825, the State was relieved by the General Government, which placed the work in charge of Captain Bache, who likewise prosecuted the work for some time with no better success, when it was abandoned until about the year 1855, when the improvement of the harbor was again undertaken by the Government, which, in the meantime, had been materially damaged by washing away a large portion of the beach near New Inlet, bringing the sand into the river, forming shoals, changing the channel, and filling up to some extent the main outlet. It is significant, that as the New Inlet widened and deepened, in like proportion the Main Bar shoaled, maintaining, however, in the aggregate of both, the original standard draught on Main Bar of about twenty-five feet, thus proving the efficiency of the volume of water passing down the river to scour out and maintain one first-class bar.

The work, through inadequate appropriations, progressed very slowly for several years, with doubtful success, when further appropriations ceased, and the work was again abandoned, without gaining any point or accomplishing any material object towards reclaiming the harbor, until 1870, when the present work commenced.

Through the influence and efforts of our Senator in Congress, Gen. J. C. Abbott, an appropriation of $100,000 was obtained from the 40th Congress, at its session of 1869–'70, for the improvement of Cape Fear river, which became available in July, 1870.

This work was assigned to the department included in the charge of Gen. J. H. Simpson, U. S. A. Preparations were commenced in August, and active operations upon the break-water, starting from the northern point of Smith's Island beach, crossing Deep Inlet in the direction of Zeke's Island, were commenced in September, 1870, by Major Walter Griswold, Assistant Engineer.

In November, General Simpson was relieved of duty here, and the work was assigned to the department under the charge of Col. Wm. P. Craighill.

Through the same influence and efforts a second appropriation of $75,000 was obtained from the 41st Congress, session of 1870–'71, which became available in July, 1871.

Of the progress of the work, we beg to refer to our monthly reports to the Chamber. Owing to the inadequacy of the appropriations the work has necessarily progressed very slowly, but by judicious management much has been accomplished. Up to this time over one thousand feet of the break-water has been finished and permanently secured over the most difficult and expensive part of the line. In addition to which, a considerable portion of the beach has been reclaimed and secured, which was in a dangerous and exposed condition. The introduction of the cultivation of the "Carolina Beach Grass" promises much towards increasing and strengthening the beach, as well as protecting it in the future.

From the foregoing statement it is evident that the Cape Fear Harbor once enjoyed all the advantages and facilities which it is now claimed that *she can, and of right, ought again to enjoy;* the only question on the subject is, as to the practicability of its restoration. This question we consider fully settled, as well by experience and observation in the past, as the trite axiom that whatever has been may be again.

A kindly feeling and generous spirit exercised toward us at this time by Congress and the proper departments of the Government, will reclaim and secure one of the most valuable harbors on the Atlantic coast.

The Government has heretofore done very little for North Carolina, and that little has been doled out as though in mere charity, in such inadequate amounts as really to accomplish no tangible good, while millions of the public treasure have been lavished upon far less worthy objects.

That the Goverment has, for over a century, neglected her duty in repairing this harbor until the damage has become formidable, can surely be no justification for longer delay.

And that she has likewise, for near a century, neglected to remove obstructions from the channel of the river, placed there by our ancestors as a means of public defence in their terrible struggle for independence of Great Britain, certainly cannot be used as a pretext for longer delay, while our commerce and trade languish, and our State, without an emporium, impoverished thereby.

Moreover, it is manifestly the best interest of the Government to restore this harbor effectually and speedily, and she would but display her wisdom and foresight in so doing at any cost. Why and wherefore ?

She would thereby secure a long needed desideratum. A harbor of refuge and convenience, exactly where the commerce and navy of the country require it, intermediate between the Northern and Southern sections of the country ; in fact, upon the exact line of division, with all the advantages of both, and subject to the disadvantages of neither ; capacious and well land-locked; easy of access for vessels of large class, with good anchorage, while Smith's Island stands a perfect and permanent protection to the outlet ; with a climate excelled by no other in salubrity ; situated within one hundred and fifty miles of the finest and most varied mineral district in the country, (including steaming coal of fine quality, and abundant supply,) accessible by water navigation or by railroad.

At trifling cost this harbor could be connected by an inland water communication with the entire seacoast lying between the Chesapeake Bay and Winyaw Bay, which abounds in the finest live oak and cedar timber, thus affording to the Government every requisite for a naval station, while it would prove a most convenient coaling station for general commerce.

The port of Wilmington is well watered, and the Cape Fear river water has long been acknowledged as of superior quality for ship use on long voyages.

We now proximate the concluding paragraph of your resolution; the bearing and effect the restoration of this harbor will probably have upon commerce, trade, agriculture and general progress.

One important effect it would probably have would be to admit to our shore "*emigrant ships*," laden with the surplus population of Europe, to people our country with hardy, laboring citizens, who will utilize our abundant forests and waste places, cultivate our lands, work our mines, and put in motion factories and workshops, not yet dreamed of. It would be well to remember that any attempt to introduce foreign labor into our State, through the ports of other States, to some extent must prove abortive.

Another probable effect would be to give a new impetus to "*internal improvements.*" People must and will have cheap and convenient highways to market, at least, and the people's interest in this matter will be the interest of the country at large, as all history conclusively establishes. Railroads and canals, not now thought of, will radiate in every direction; unnavigable rivers and creeks will be cleaned out and made navigable, and remote corners of the country opened to market.

Existing railroads will be strengthened and stimulated to push their lines through the mountains into the rich valley of the Mississippi, and shake hands with the great cities of the West.

Through the influence of this "*restored harbor*" commerce and trade will lift their drooping heads and smile again.

By reference to the maps of the country it will be seen that Chicago, St. Louis, Cincinnati and Louisville are as near, if not nearer to Wilmington, than to any other seaport of the Atlantic coast, while Memphis is about the same distrnce as to Charleston, and a trifle further than to Savannah.

Our position and facilities for trade with the *West Indies* and "*South America*" give us decided advantages over any other city of the Atlantic coast as a market for coffee, sugar, molasses, salt, guano and all other productions of those countries, which can be exchanged with our Western friends for corn, wheat, flour, bacon, lard and other productions of that region, to say nothing of our home productions—timber, lumber and naval stores.

Our port being south of all the dangerous capes and shoals of the coast, subjects us to less time and hazard, consequently more dispatch and less insurance in the conduct of the trade, while our facilities for an European trade would be as good or better than the average of shipping ports.

We therefore respectfully invite the attention of the cities and States of the Western and Northwestetn country to this subject, to investigate it and see whether their interest is not identified with ours sufficiently to justify a joint appeal to the Congress of the United States, through our representatives, for the perfect restoration of Cape Fear harbor.

By reference to the report of a committee of the 40th Congress, on the policy of extending government aid to additional railroads to the Pacific, it will be seen that Wilmington on the Atlantic, Memphis on the Mississippi, and San Diego on the Pacific, form almost a straight line, and very nearly upon the same parallel of latitude. This line passes through an apparently favorable country for the location of such a road, more direct, and promising much less cost of construction per mile, and far less of mileage in crossing the continent, than any other finished or proposed line; moreover, being more exempt from disasters and detentions from the ice and snows of winter.

This road will surely be built, and that at no distant day. Would it, therefore, be considered presumption in us to as-

pire to a participation in the traffic of this road and its connections? Why not, if we are in condition to invite it by sufficient inducements?

"To OUR CITY," and its commerce, with all the ramifications of general progress, the benefits would be unbounded —their details would prove too lengthy for this communication.

"To OUR STATE," it would be her "PRIDE" to point to an "EMPORIUM" in every respect worthy of her, which at *once*, and *forever*, emancipates her from the humiliating commercial vassalage to other States under which she has so long labored, securing to her own citizens all the benefits arising from an import and export trade.

In conclusion, your Committee beg leave to express the opinion, *that the restoration of Cape Fear Harbor and River is the* "PIVOT," *the* TURNING POINT, *in the future prosperity of* WILMINGTON—*the* HONOR *and* GRANDEUR OF NORTH CAROLINA —*while it places a brilliant jewel in the coronet of the* UNITED STATES OF AMERICA.

HENRY NUTT, Chairman.

"OUR BARS AND RIVER."

We give below the interesting report submitted to the Chamber of Commerce of this city at the last regular meeting, by the Committee appointed for that purpose, in relation to our bars and river. There is much in this report of historical interest, and the comparison of the present disadvantages of our bars, with the former natural advantages, should beget the resolve in the minds of those interested (and who is not) to try every means in their power to have it properly improved. We think that we have a right to expect some aid from Congress, and hope the matter will be put through. The report is as follows:

To the President and Members of the
Chamber of Commerce of the City of Wilmington, N. C.:

Your Committee, appointed in August last, to consider the present condition of our "Bars and River," and to investigate the causes leading to the constant depreciation of the draught of water upon the same, and of suggesting some plan of arresting the damaging effects upon our navigation by further neglect and delay, beg leave to report that they have diligently searched, but without success, for some of the old charts and surveys of the bars and river, made prior to the year 1820, and before the breaking out of New Inlet, which were known to be extant, and in possession of your Chamber and many of our citizens prior to the breaking out of hostilities between the sections. All seem to have been destroyed or lost. None could be found except those made under the direction of the United States Coast Survey since the year 1820. These were procured from Washington City through the courtesy of our Collector, D. Rumley, Esq.— Those old charts were deemed essential in making a comparison of the draught of water upon the bar, and the position of the channels before and after the breaking out of New Inlet, which would better enable your Committee to offer direct and positive recorded evidence of the causes which produced the present depreciated condition of our navigation, and the almost certainty of continued depreciation, unless speedily arrested.

Your Committee, therefore, find themselves under the necessity of offering for your consideration facts from memory only, contained in the traditionary history of the country.— James Newton, an old and highly respectable pilot, who was born and raised, lived and died, near Federal Point, told one of your Committee a short time before his death, (a few years ago,) that he well remembered the first breaking out of New Inlet, during the prevalence of a long and terrific Northeast gale, in the month of September, 1781. That prior to that time he had frequently walked and ridden to Bald Head Beach, now Smith's Island.

The late Capt. Thomas N. Gautier, who was a merchant of

this place during the period of time included between the years 1790 and 1810, told one of your Committee that, during that period, among many others, he had loaded one ship to thirty feet draught, which proceeded down the river and to sea, on her voyage to London, without difficulty or interruption.

During the years 1797–98, about eighteen years after the first breaking out of New Inlet, and twenty years before it came into use for the smallest sized sailing craft, a survey of Cape Fear bar and harbor was made by the late Joshua Potts, (an engineer of some celebrity,) exhibiting a draught of water on Main Bar of twenty-four or twenty-five feet at mean low tide. Older charts than this exhibit a greater draught of water, particulars of which, however, are not accurately remembered by your Committee. Many old citizens, now living, remember to have seen, at our wharves, vessels drawing fifteen to eighteen feet water. But, about the year 1820, as the depth of water increased on New Inlet, in like proportion it diminished on the Main Bar, maintaining upon both the aggregate of about twenty-five feet. These facts in the history of the past are conclusive evidence, in the minds of your Committee, that the true and real cause of the present alarming condition of the navigation of our bars and river, is to be found in the existence of the new inlets, and that alone.

One of your Committee, at least, is able to testify, from his own observations of the operations of closing those inlets just prior to the commencement of hostilities, of the perfect practicability and ease with which the work was accomplished. Feeling, therefore, the utmost confidence in the practicability of restoring to our port and State the advantages of our former and natural commerce and trade, and, feeling it to be perfectly competent and within the province of the government of the United States, at comparatively trifling cost, to accomplish this great end, we recommend your body, without delay, to memorialize Congress through our Senator, General Abbott, and request the co-operation of all our delegation to Congress, in urging upon that body the impor-

tance and absolute necessity of prompt and efficient action in saving from utter destruction an important port, at an important point on the Southern coast, which will be worth millions to the commerce of the country.

All of which is respectfully submitted.

(Signed) HENRY NUTT, JOHN WILDER ATKINSON, JAS. H. CHADBOURN, } Committee.

13TH DECEMBER, 1868.

WILMINGTON, N. C., 13th OCTOBER, 1869.

To the President and Members

Of the Chamber of Commerce:

Your Committee, to whom was referred the subject matter connected with the condition and improvement of our Bars and River, beg leave to report that the subject has had their utmost consideration.

At the last session of the Congress of the United States, our Senator, Gen. Abbott, who seems to take a lively interest in the enterprise, as also other members of the North Carolina delegation, introduced a bill into that body, making an appropriation for the work, which was referred to the legitimate committee for consideration; but, owing to an extraordinary press of what was deemed more important business, this bill was not reached before the adjournment of Congress, and did not receive its proper consideration. Other means were used by our Senator for accomplishing the purpose, by attaching it to the general appropriation bill, but without success.

During the past summer, at the suggestion of your Committee, General Abbott invited three prominent members of Congress, who were passing South through our city on official business, to spend a day with us, in a reconnoisance of the bars and river. The day and tides were favorable for the excursion, and they expressed much satisfaction at the

visit, and conviction of the importance of the proposed work, as well as the necessity of prompt action by Congress for the preservation of the port. From all which, your Committee feel assured of the co-operation of Messrs. Bingham, Eldridge, and Loughridge, when the subject shall come up for final action by Congress. Upon a review of the whole subject, your Committee feel greatly encouraged that something effective will be accomplished at the approaching session of Congress.

Your Committee feel assured that the *heart and soul* of General Abbott is in this matter, and that, with his known energy and perseverance, no stone will be left unturned for the consummation of its accomplishment. And in this view of the subject, he suggests, and asks your body to appoint and send to Washington, during the session of Congress this winter, a committee, to co-operate with him, inasmuch as a large portion of his time, which should be devoted to outside service and canvassing the subject, will be required in the house.

All of which is respectfully submitted.

H. NUTT, Chairman.

HARBOR REPORT.

To the Honorable the Mayor

And Board of Aldermen of the City of Wilmington:

GENTLEMEN:—In compliance with your request, of the 10th ult., I proceeded to Washington City for the purpose of submitting a plan to the United States Government, by which the necessary improvements on the bar, commonly known as the "Old Ship Channel Bar," could be attempted with a comparatively small outlay, and a fair chance of getting from

12 to 13 feet water at mean low tide over this bar, which would give us from 16½ to 17½ feet at high tide.

On my arrival at Washington, I laid my plan before Senator Abbott and Representative Dockery, and after satisfying them of the feasibility of the same, consulted with them as to the best mode by which we could most easily obtain the amount necessary to begin practically our attempts of improvements with as little delay as possible ; for, in my opinion, judging from the changes which have taken place since 1865, as shown by the last partial survey of 1869, by United States Coast Survey, we have no time to lose in making a beginning, and so avoid the danger of our bar's being shoaled to an extent that would prevent any but vessels of very small draught to enter our harbor.

In accordance with the advice and assistance of these gentlemen, I proceeded to the respective departments to which all matters on improvements of this kind are referred, and urged on them the immediate necessity of the case, indicated my plan by which this work could be commenced, and am happy to state that the Superintendent of the Coast Survey recommends, in his report to Senator Abbott, the necessity of the improvement, and that one hundred thousand dollars be appropriated for the commencement of the work.

The bar, in the Old Ship Channel, which I selected for improvement, has shoaled two and a half feet in the last five years, and therefore any procrastination in the work will be injurious to our commerce, as I believe it can be shown that year by year since 1840 the obstruction has increased, and unless speedy action is taken it will result in the total destruction of our harbor. I base my opinion on data gained from different surveys, made from the year 1733 to 1869.

On the survey of 1733, a depth of 21 feet is shown in the ship channel at mean low water, and in 1869 only 5½ feet can be found in the same channel. The most rapid decrease of water on the bar begins from 1840, after the United States Government had put down jetties for the protection of the shore off Fort Caswell. At this date there were 15 feet of

water on each of the three bars. You will, therefore, readily see why I consider delay in beginning practical operations detrimental to our harbor, and would suggest to your honorable body that, should the earnest efforts of our Senator and Representative fail in obtaining the necessary means to begin the work, that you should urge on the State Legislature to make an appropriation of fifty thousand dollars for this purpose, with a view to have it refunded by the General Government at some future time.

Certainly this harbor is of too much importance, not only to the city of Wilmington but to the whole State of North Carolina, to be neglected. We have now most of our rail roads centering and terminating in this place, and therefore the closing of our harbor for larger vessels would put us at the mercy of railroads, and no outlet could be had for our products but by the ports of other States. This condition of affairs of course would be a great loss to the whole State, as our producers would not be able to compete with those of other States, for the simple reason that we could not ship our goods at the same rates as merchants of more favored localities, where vessels can land and take merchandise from their wharves, and receive the same without paying lighterage.

It is with pleasure I inform your honorable body that I have the assurance of the heads of Bureaus, as well as of Congressmen having the matter in charge, that the claims of Wilmington will not be forgotten, and that the plan I have suggested will be adopted.

Our immediate representatives have the matter in hand, and I had the assurance of Senator Abbott—just before leaving—that all of the Committee having the matter in charge, were in favor of appropriating the amount I ask, and as yet there is no appropriation.

In conclusion, I would remark that, with the assistance of Mr. Charles I. Grady, the editor of the Post, I prepared and had presented an elaborate argument, "Why the port of Wilmington should have a part of the money so lavishly giv-

en by the government to ports in the Western and Eastern States." This argument will be presented by General Abbott in the Senate, and we have every reason to believe will be effective.

Respectfully yours,

ALEX. STRAUSS.

March 6th, 1870.

RESOLUTIONS

OF THE BOARD OF ALDERMEN, OF THE CITY OF WILMINGTON, NOVEMBER 28th, 1870.

Whereas, The importance of farther appropriation by the Congress of the United States to the improvement of the Cape Fear Bar is most apparent, in view of the present unfinished condition of the work, and the great benefits daily developing as it progresses.

Resolved, That the Mayor and Aldermen of the city of Wilmington do most earnestly urge upon Congress the claims of this work, and respectfully request the Senators and Representatives in Congress from this State to bring the matter before their several Houses, and solicit liberal appropriations to this truly national work.

Be it further resolved, That a copy of this resolution be sent to each member of Congress at Washington.

RIVER AND BAR IMPROVEMENTS.

Major Walter Griswold, of the U. S. Engineer Corps, who is in charge of the Cape Fear River and Bar Improvements, now in progress, has just completed a detailed report of his operations, addressed to Col. W. P. Craighill, of the Engineer Corps, and through him to be forwarded in reply to res-

olution of the U. S. Senate, recently adopted, asking for information in regard to the progress of these works. The report is elaborate and is very encouraging, and we hope that the good which beyond a doubt has been already accomplished, may induce the Congress to vote continued appropriations to the work.

Those of our readers who were *ante bellum* residents of the city, may remember that there was once a little sand strip on the South side of New Inlet bar, and opposite Fort Fisher, called Zeke's Island. This was separated on the South, by a shallow inlet, from Smith's Island, which is a long, low tract, running down the Cape Fear, widening as it goes.—Zeke's Island has been gradually washed away by Easterly winds and tides until but little of it now remains; and it is here, from along the Zeke's Island sand bar, across the shallow inlet, and on the upper part of Smith's Island, that the great injury to the river and bar has been done. A high Easterly wind drives the water over these points, and it carries with it as it goes large masses of sand, which fall into the sound and marshes known as Buzzard's Bay. These are affected by the tidal currents, and are gradually taken up and carried down the channel, some of them being deposited in the river, and others stopping on what is known as the Rip, on Main Bar, opposite Fort Caswell.

Having carefully ascertained these facts, the officers in charge knew just where to proceed—like the physician, having made a careful diagnosis of the disease, their skill and experience at once suggested the remedy.

The object of their labors thus far has been to build a line of obstructions from a point on Zeke's Island to the North, to Smith's Island on the South, of sufficient strength and ability to successfully resist the action of the waves. They know that, this once accomplished, there would be less washing of the sand from the bay into the river, because there could be no tide from the ocean, at that point, to force it away. These obstructions are not yet completed, but already a favorable change has been noted. The channel at New Inlet has been improved, and the pilots report a gradual in-

crease of water on the Rip at Main Bar, all of which can be directly traced to the influence of the obstructions.

As the work has proceeded, a new idea has been developed to Gen. Simpson, the chief officer, which is, that New Inlet itself may be successfully obstructed, and the channel of the river and the Main Bar thus become washed out and improved. By obstructing New Inlet, and by the use of a steam dredge, it is felt sure that our bar can be restored to its original depth, and that the largest ships can be floated over it safely. In the meantime, it is supposed that the large expanse of water known as Buzzard's Bay will be gradually filled up by sand washing down from the banks of Smith's Island, and which cannot be carried into the channel of the river, or across to the bar, as we have heretofore explained, for the want of tidal action.

We have written more than we intended, which was to merely give an outline of the facts stated, and the suggestions made in the report to be submitted by Maj. Griswold. The beneficial effects of the work, even thus far, are already plain and unequivocal; and if such is the case now, how much greater must be the improvement when the work of closing the gap between Zeke's and Smith's Island is completed, to say nothing of the total regeneration of our port, should the improvements be extended to the entire closing of New Inlet.

The advantages to be derived from a continuation of the work are plain and manifest, and money is all that is needed to carry the enterprise through. On the contrary, should Congress grant no further aid, and the work be therefore compelled to stop, all the money thus far expended will have proved not only unavailing but an absolute waste, and Wilmington may at once, for at least a century to come, take a back seat among the third and fourth rate towns.—*Journal Editorial, January* 20, 1871.

COL. CRAIGHILL'S REPORT TO GEN'L HUMPHREYS.

BALTIMORE, JAN'Y 23D, 1871.

GENERAL:—I have the honor to acknowledge the reference to me for report, of the Senate resolution of January 13th, (received 20th,) calling for information as to the progress of the work of improvement at the mouth of the Cape Fear River in North Carolina.

The object of this improvement is evident from the following extract from the report of a commission of distinguished men, who elaborately examined and discussed the subject in 1853:

"We find that a harbor which once afforded easy access to vessels drawing nineteen feet of water, will now only admit those with less than thirteen, and we cannot but regard this deterioration as a great national misfortune, and the restoration of the Inlet to its original state as a work demanded by the general interests of commerce, both in peace and war."

The importance of the improvement is well illustrated by a further extract from the report already referred to:

"Beaufort Harbor, ninety miles East of Cape Fear, is the only harbor of refuge for vessels drawing over thirteen feet between the mouth of the Chesapeake and Charleston, along a coast exposed to frequent and violent Easterly winds and storms."

An inspection of any general map of the coast will show the importance to our shipping of a port of refuge, a place of repairs and supplies at the Cape Fear, which may be regarded as the head or more retired part of the great bend in which vessels frequently encounter Easterly or Southeasterly storms, and where annually many are wrecked, and more still dismasted and otherwise crippled.

The immense trade carried on between points South of the Cape Fear—New Orleans, Mobile, Pensacola, Key West, Savannah, and Charleston, and the Northern cities, Baltimore, Philadelphia, New York, Boston, &c., and between the

former cities and Europe, is maintained in vessels drawing about fifteen or eighteen feet of water, and the larger part of it passes along the coast of North Carolina, near the mouth of the Cape Fear. Can any one calculate the utility of this port as a port of refuge?—a place of escape from the elements and the enemy;—a place of supply and repairs when crippled, for vessels of that class in time of war.

Other nations, at enormous expense, have made artificial harbors on coasts not badly supplied with natural ones.—Shall not we, at comparatively small expense, restore what nature once furnished? Are not the arguments which justify and require the erection of lighthouses applicable to this improvement?

In the late war of the rebellion, Wilmington was among the last places of importance on the Atlantic to succumb to the power of the United States; and the entrance to the Cape Fear River was guarded with the utmost vigor and tenacity. Its great value in time of war, to those holding it, was fully manifested.

In past years, considerable sums have been spent by the State and by the United States in the improvement of the navigation of the river above its mouth. At present the depth of water which can be carried from the ocean into the river is considerably less than what is available in the river after the entrance is made. All efforts at improvement should therefore be directed to the bars at the mouth of the river.

There are two entrances to the Cape Fear. What may be called the old mouth is between Bald Head and Oak Island, in width about one mile and three-eighths. In this opening there are two channels—the Eastern, which hugs the bend of Bald Head, and the Western, which bends along the land of Oak Island. The other entrance is called New Inlet, although it has been open since about 1780, or nearly a century. It is distant about seven miles from Bald Head, and is about three-quarters of a mile in width, between Federal Point and Zeke's Island. Just to the South of New Inlet are found several openings through Zeke's Island, which are not naviga-

ble, although they, like New Inlet, are the channels through which passes much of the water that would, if they did not exist, flow through the main entrance of the river.

The bars at the Old Inlet have shoaled greatly since the opening of the New Inlet, which diminishes by a vast amount the volume of water which otherwise would, and formerly did, pass in and out at the main entrance during every tide. Another cause of shoaling of the bars at the main entrance has been the wearing away of a portion of Smith's Island, especially at Bald Head, and a consequent deposition on the already existing shoals forming the bars.

The plan of improvement has been first to check this wearing away of Smith's Island, and the consequent deposition on the bars, by the construction of suitable works for the protection of the shore of the Island, which was successfully accomplished about fifteen years ago. The next step was to attempt to restore, to some extent, the old condition of things in the river, by closing the openings through Zeke's Island. This was successfully done in 1856, and a beach had formed in front of the works, closing them. In 1857, the Southern coast was visited by the most severe storm of which there is any record in that country. The works last referred to were unable to resist its violence, and were greatly injured. With reference to this matter, the following is the opinion of the commission of 1858. composed of some of the ablest men in the country :

" Had the whole amount of money estimated as the cost of this work been appropriated, there is no doubt that the works would have been made strong enough to resist even this storm."

This is a very important statement, and deserving the most careful consideration at this time.

At the last session of Congress, an appropriation of one hundred thousand dollars was made for the Cape Fear River. The renewal and strengthening of the work at Zeke's Island was immediately undertaken in the most energetic manner. About $60,000 have been expended up to this time, leaving $40,000 for carrying on the work during the remainder of the current fiscal year. More than twice that sum

could be expended before July 1st, with the greatest advantage, if available. The accumulation of sand follows the work as it is carried onward from the point of beginning, and an improvement in the depth of water in the channel is reported by those navigating it.

My predecessor, Col. J. H. Simpson, Corps of Engineers, estimated that the construction of this breakwater at Zeke's Island would require $157,000 in addition to the $100,000 already appropriated, and asked only two-thirds of this amount for the next fiscal year. His arrangements for conducting the work were so good, and its progress and its results have been so satisfactory, that it is highly expedient, in my judgment, to appropriate at once, and make available for immediate expenditure, the total balance of $157,000; and I earnestly recommend that the adoption of that view be urged upon Congress.

The appliances for carrying on the work, in the way of an organized force, means of transportation, quarters, a steady supply of excellent materials at fair rates, &c., are now very good. To get the best results, this machine of many parts should be worked continuously up to its best time. For this purpose, a liberal and immediate appropriation is essential. A failure to appropriate any money for the next fiscal year would be as poor a piece of policy as that of an individual who would half finish his dwelling house, and then leave it exposed to injury and ruin from ravages of the elements.

The following is an important statement, which is taken from the report of the commission of 1858:

"The works recommended by the board of 1853, were, in the opinion of the commission, entirely efficient, so far as they were carried out, having, as is shown by the Coast Survey maps, caused an increase in the depth of the Oak Island channel of between one and two feet."

It is likely that this good effect, produced in one year, would have been much increased, had the works remained. The fact that immediately after the destruction of the Zeke's Island works the Oak Island channel began to shoal, is conclusive, taken in connection with its previous deepening, that the latter effect was produced by the Zeke's Island works.

The commission of 1858 recommended, as the next step in the improvement, the protection of the Northern portion of Smith's Island, where it is low and narrow. They were of the opinion that when the openings at Zeke's Island were closed, (the work now in progress,) and the outer beach of Smith's Island thoroughly protected, the depth on the main entrance would be found to increase materially. They further recommend that the main entrance should be carefully watched, and if its depth, in the course of two or three years, should not increase so as to permit the passage of vessels drawing the amount of water which can be carried up to Wilmington in the river, the closing of New Inlet should be undertaken.

The closing of New Inlet has been opposed by some persons. They say that its bar is as good as that of the old mouth of the river, and the entrance easier during certain winds; that for the greater number of vessels trading to and from Wilmington the New Inlet is much the shortest entrance, and the safest, because avoiding the danger of the Frying Pan Shoals.

Some persons also have advocated dredging in one or the other of the channels. It was the opinion of the commission of 1853, that there was rock underlying the bar of New Inlet, which would make its improvement by dredging probably impracticable to any great extent, especially as its position is very much exposed. Other persons have proposed the diversion of the river from the old channel to the New Inlet, and the concentration upon the New Inlet of all efforts for the improvement of the entrance.

The great cost of these operations leads to their rejection, even if we leave out of consideration the improbability of success in an effort to obtain as great a depth in the New Inlet as is known to have already existed in former times in the Old Inlet. The time has not yet arrived for deciding definitely as to the propriety or necessity of closing New Inlet, or of any advantage to be gained by dredging in either channel of the Old Inlet.

The work now in progress at Zeke's Island is an impor-

tant, a necessary, preliminary to gaining greater depth of water by either Inlet, and should be vigorously prosecuted, in advance of a determination of the question of closing or leaving open New Inlet, and the other question of resort to dredging to induce a more speedy return to the original condition of affairs at the Old Inlet.

I transmit an interesting report from the local Assistant Engineer. I made an examination of the work January 20th, as well as of Bald Head and other points in the river. Its progress has been all that could have been expected, and the effects in its immediate vicinity, which are visible to the eye, are certainly extraordinary.

The reported changes on the bars might reasonably be expected, and are very encouraging. The results of the work now in progress are sufficient evidence of the importance of carrying out the present plan. I have directed a careful daily watch to be kept of the action of the sea upon the exposed portions of Smith's Island, and the shore lines will be run once a month.

The immediate appropriation of $157,000 for this work is urgently recommended.

Very respectfully, your ob't serv't,

(Signed) WM. P. CRAIGHILL,

Maj. Engineers.

BRIG. GEN'L A. A. HUMPHREYS,

Chief of Engineers U. S. A., Washington, D. C.

WILMINGTON, N. C., 6TH MARCH, 1872.

To Dr. W. W. Harriss,

President of the Chamber of Commerce:

SIR:—Availing myself of an invitation from Maj. Griswold to visit the public works under his charge at New Inlet, for the improvement of Cape Fear Bar and Harbor, I accompanied him and his assistant, Mr. Benton, down the river to-day.

The weather being suitable, we had a fine opportunity of surveying the situation, both during the ebb and flood tides. Presuming it would interest you and the Chamber to know of the situation and progress of the work, I beg leave to report my observations.

At the commencement, the line of stone work put down some years since between Zeke's Island and the belt of beach connecting with Smith's Island, is distinctly traceable at low tide, running in a line northwest and southeast, The task of renewing this work and preparing it to resist storm and flood is comparatively trifling. At the northern end of this line of stone work a breach has been made about six hundred feet wide and about ten feet depth of water in the deepest part of it, wearing away a considerable portion of Zeke's Island. Around the southern end of this old stone work, being in the bend or angle formed by these works and the line of beach, another and most formidable passage was made, about or near six hundred feet wide and thirty-seven feet deep. To westward and southward from this point stretches out an immense sheet of water, known as Buzzard's Bay, the water of which being acted upon by the downward course of the river water on the western shore, produces a most voilent counter current through this passage to the ocean level, hence the great depth of water it has attained. The Engineer in charge has not been slow in perceiving the formidable character of this enemy or the importance of closing these passages to Zeke's Island, thereby forcing this vast volume of water through its natural outlet at the mouth of the river; neither has he been slow in his operations. He very wisely determined to commence operations upon the northern point of the beach by sinking cribs of heavy timber, twenty by thirty feet, filled with stone, across the inlet, in line with the old works. About four hundred and seventy lineal feet of cribs have been placed in position, three hundred and eighty feet of which has been covered with the finishing superstructure, while ninety feet are now ready to recieve the same. Two more cribs are now ready to be placed in position during this week.

Thus far the work has been attended with eminent success; the agitation of the water in its obstruction has had the effect of depositing the sand against the works as far and as fast as finished, almost to the top of the superstructure, where thirty-seven feet of water existed but a few days since. I also find sand shoals, some of them bare at low tide, forming in all directions, inside and out, where ten to twenty feet of water existed but a short time ago. The ocean line of beach, far away to the southward, is rapidly widening and filling. Nor is this all. I am imformed that since the commencement of this work a considerable change has been effected in the current and channels of the bars and river, and that the Rip near Fort Caswell is preceptibly wearing away. Thus far the work appears a flattering success, much of which may be attributed to the practical good sense and judicious management of the Engineer in charge, and of the prompt, energetic co-operation of Mr. Cunningham, Superintendent of the work. In such hands I feel every confidence in the final and complete realization of our anticipation, provided they are properly sustained by the Congress of the United States. This accomplishment will cheer the drooping spirits of the merchants and traders of the city of Wilmington, as well as the citizens of the State at large, by restoring to the State her long lost harbor, one inferior to none npon the Southern Atlantic coast, and altogether worthy of her, and by the establishment of an emporium within her own borders which will emancipate her from the commercial vassalage to neighboring States, under which she has groaned for ninety long years.

Closing the old or principal inlet, I regard as of minor importance comparatively. Nature seems disposed to close it anyhow, but it requires some effort on our part to assist her. I am of opinion that it may be closed in less time and with less cost than is generally supposed.

The Major informs me that he contemplates some experiments looking to the collection of drift sand upon the low flat beach to the south, and if successful, and he shall be authorized to do so, will inaugurate a system of cultivating grass shrub-

bery and trees upon the beach, with the view of holding the sand and strengthening the beach against incursions of wind or water.

All of which is respectfully submitted.

(Signed) H. NUTT, Chairman.

WILMINGTON, N. C., 30TH MARCH, 1871.

To WM. W. HARRISS, ESQ.,

President of the Chamber of Commerce:

SIR:—Your Committee beg leave to submit herewith a correspondence held with Major Walter Griswold, Engineer, in charge of the Bar and River Improvements, touching the present situation and future prospects of the same.

From this correspondence will be seen the critical position these improvements have been placed in, by the insufficiency of the last appropriation made by the Forty-first Congress of the United States.

The estimate submitted to the Department by the Engineer in charge of the works required an appropriation of $153,315 66 to complete the work *to* Zeke's Island only, without making any provision for strengthening or securing the Island. The appropriation for this purpose was $75,000. This sum will probably be sufficient to conduct the work only to the small inlet next south of Zeke's Island, or a short distance into, but certainly not across it, when the work must stop, and wait another appropriation of the Congress which convenes in December next, and which, if then made, will not be available until July following. The consequence of this delay will be, first, that if the work is suspended the tug-boat, lighters, tools and materials and property of the improvements must be sold for what they will bring, which will not probably exceed one-tenth of their original cost.

Second. A well organized set of experienced operators must be disbanded.

Third. It is reasonable to suppose that if the work has to rest where the present appropriation leaves it, that the same cause which produced the terrible inlet which has just been successfully closed at the expense of much trouble and money will be repeated upon Zeke's Island, and the unfinished inlet, as well as upon the main inlet, thereby greatly enhancing the cost and time of a final completion of the work, if not postponing it indefinitely. Under these circumstances your committee feel that they cannot too strongly urge upon the Chamber the necessity of *prompt* and *energetic* action in the premises, proving what we feel able to do, the absolute necessity and true economy to the Government of enlarging this appropriation to a sum sufficient not only to reach Zeke's Island, but to protect and secure it against further destruction.

If the Government or the officers who have the charge and control of such matters can be made to understand the true nature and character of the situation, *surely* they will not hesitate to do what is so palpably necessary for advancing the best interests of Government, as well as the country at large.

All of which is respectfully submitted.

HENRY NUTT,
JOHN WILDER ATKINSON,
JAS. H. CHADBOURN,
} Committee.

WILMINGTON, N. C., March 18th, 1871.

Maj. Walter Griswold,

Dear Sir:—May I take the liberty of troubling you for some information relative to the public works under your charge for the improvement of Cape Fear Bar and Harbor?

I have been informed that you submitted to Congress estimates for the completion of the work to Zeke's Island, at about one hundred and sixty thousand dollars, which was answered by an appropriation of seventy-five thousand dollars. Please inform me, at your early convenience, about

how far that appropriation will complete the work, and about how much time will be required in consuming it, with your present force. What will be the probable effect or result of suspending operations before its completion to Zeke's Island?

What would be the probable effect of a severe Northeast gale, say in September, upon the unfinished work?

Are you now working as large a force as can be judiciously employed?

Can the force be increased to an extent (within a judicious management) sufficient to complete the work to Zeke's Island before the period of the usual equinoctial storm; and if so, will the estimate first called for enable you to accomplish it?

I desire this information for the use of the Chamber of Commerce, that it may institute such proceedings in the premises as may be deemed most efficient, for securing a completion of the work without delay, thereby securing the benefit of the generous appropriation of Congress, and preventing, as far as in their power, the wasting of this as of former appropriations.

I am, very respectfully, your ob't serv't,

H. NUTT, Chairman.

OFFICE OF THE CAPE FEAR RIVER IMPROVEMENTS,
Wilmington, N. C., March 20, 1871.

HENRY NUTT, Esq., Chairman, &c.:

MY DEAR SIR:—I have the honor of your letter of the 18th inst., propounding several questions, of which the following is a reply:

1st.—I submitted an estimate last September for the commencement and completion of a crib and superstructure work, from the head of Smith's to Zeke's Island, which estimate was transmitted to Brig. Gen'l J. H. Simpson, U. S. A., and by him to the Engineer's Department at Washington, amounting to $253,315 66;—$100,000 had already been appropriated, leaving $153,315 66 yet to be obtained to com-

plete the work to Zeke's Island, without providing for strengthening the same.

2d.—I think now, after having waded all winter in a difficult place, that we can accomplish the building of five hundred feet (lineal) more with the means at hand, and by the 30th of June next, at which time all the funds available will be expended.

3d.—To suspend this work before its final completion, will necessitate the sale of all the boats, pile driver, tools, timber and iron, and the dispersing of a lot of experienced good men. As there is no demand for either boats or such material and tools as would be on hand, I apprehend I could not realize one-tenth of their original cost—comparatively nothing.

4th.—My work is always secured so that a Northeaster at any time will not seriously affect either the finished or unfinished portion.

5th.—My total force at present consists of about forty-five men. I can work ninety judiciously.

6th.—With a force of ninety men, I can expend about $20,000 per month. A larger force cannot be employed advantageonsly on a work so confined.

It therefore will consume over seven months to expend the amount to complete the work to Zeke's Island, thereby closing operations about the middle of February, 1872—counting from the first of July next.

I believe I have answered all the *points* in *your* letter, and I hope satisfactorily. You will please do me the honor to call upon me for any information pertaining to the Cape Fear River Improvements, which may be of avail to your Board in facilitating its progress and final completion.

I am, sir, with much respect, your ob't serv't,

WALTER GRISWOLD,

U. S. Ass't Engineer.

P. S. I have no official notification of $75,000 being appropriated by the XLI Congress for this work.

WALTER GRISWOLD.

WILMINGTON, N. C., 24th MARCH, 1871.

MAJOR WALTER GRISWOLD,

Sup't Cape Fear River Improvements, Wilmington, N. C.:

MY DEAR SIR:—Permit me to thank you for myself and the Chamber of Commerce, for your answer of the 20th inst., to my letter of inquiry of the 18th inst.

One important question, however, was not perhaps sufficiently explicit to be fully understood by you, I therefore repeat,

Should the money in hand, with the last *reported* appropriation of seventy-five thousand dollars, be sufficient to carry you no further than the small inlet, between the line of old works and Zeke's Island, or partly across it, what would be the probable effect upon that Inlet and upon Zeke's Island, or even upon the large or principal Inlet, by suspending the work at the point first named?

Is it likely that the rush of water into and out of "Buzzard's Bay" would be sufficient to rapidly deepen the above named Inlets, and destroy Zeke's Island, thereby greatly enhancing the labor and expense of a final *completion* of the work?

If consistent with your position, I should be pleased to have an expression of your opinion upon the points above mentioned.

I am, sir, your obedient servant,

H. NUTT, Chairman.

OFFICE CAPE FEAR RIVER IMPROVEMENTS,
WILMINGTON, N. C., 25th MARCH, 1871.

HENRY NUTT, ESQ., Chairman, &c.:

DEAR SIR:—Your communication of the 24th (yesterday) I have received, to which I unqualifiedly reply, that should the present improvements between Smith's and Zeke's Islands be abandoned, after reaching a point between the points of rocks of the old work and Zeke's Island, that the flood tide will sweep around the end of it and deepen a channel at that

point, and eventually sweep away Zeke's Island. No fear need be entertained that the waters from "Buzzard's Bay" will injuriously affect either Zeke's Island or open a very deep channel intervening between that and the end of the works, simply for the reason that there will not be sufficient ebb at that point; and from the fact that Zeke's Island and the channel spoken of is so near the main channel of the river that an attempted ebb, past the end of the works completed, will be forced to assume the direction of the main channel. What now causes the ebb through the thirty-seven foot hole, was an eddy of the ebb tide from the river, which was unable to pass out the New Inlet on account of the short turn or acuteness with which it was obliged to make to go through the channel of the Inlet, and took a large circle into Buzzard's Bay, and returning at the point named. It will therefore be seen that for the waters to ebb at the channel between Zeke's Island and the point of rocks, it will have to assume a very acute angle, which is rather against the nature of water in the present premises. You may ask if this same eddy, which formed around Buzzard's Bay, would not still assume that route, and come against the works, and follow it to its end. It could be answered at once, that the present work is an obstruction, and water will not make against obstructions, especially where it is only trying to find its own level, as in the case of tides. There will, however, be an ebb current past the end of a work completed to the point named, but very slight.

My apprehension of the flood injuring Zeke's Island, and opening a deep channel, is based as much upon the fact of observing its rapid transit through the thirty-seven foot hole as from the fact that it must assist in filling the Bay, which, owing to its extent, would require larger inlets at Caswell and Bald Head, as they at present exist, to supply water sufficient to cover that immense territory within the time allowed between the tides.

I am, sir, respectfully, your ob't serv't,

WALTER GRISWOLD,

Assistant Engineer.

WILMINGTON, N. C., 7TH APRIL, 1871.

DR. W. W. HARRISS,

President Chamber of Commerce:

DEAR SIR:—Having made another visit yesterday to the bar and river improvements, in company with Major Griswold, the Engineer in charge, it affords me much pleasure to communicate to the Chamber the favorable progress of the work since my visit on the 6th of March, just one month ago. In that short period of time four cribs have been placed in position and filled with stone, nearly closing up the deep inlet, requiring but one more crib to accomplish the same. The Superintendent is now engaged in placing the superstructure cribs upon the foundation cribs, filling and leveling up with stone above the high water mark, about thirty feet of which is already complete, and the work of placing the superstructure and finishing the work as far as the foundation cribs have been placed, is being rapidly prosecuted. It is most gratifying to observe with what facility this great and important work is aided by nature in bringing up to its assistance the requisite amount of sand necessary for forming the beach as rapidly as the current of water is shut out by the finished work. A new beach seems to have formed outside of the old line of flat narrow shore, which stretches southward toward Bald Head, and which is already up to high water mark and about eighty feet wide. Shoals are forming all along outside of the works, many of them dry at half tide. Nature seems anxious to accomplish this work for us, but true to her own laws, requires us first to put our own shoulders to the wheel. It is very much to be regretted that the appropropriation made by Congress is inadequate for pushing on the work more rapidly, owing to which the expenditures have been curtailed and the number of workmen very much reduced. Considering the small force now engaged the work is progressing with astonishing rapidity, and I congratulate the Chamber upon the very satisfactory results thus far.

I am, very respectfully, your obedient servant,

(Signed) H. NUTT.

WILMINGTON, N. C., MAY 10TH, 1871.

DR. W. W. HARRISS,

President Chamber of Commerce:

DEAR SIR:—I have the pleasure of informing you of a visit yesterday to the public works for the improvement of Cape Fear Bar, in company with Major Walter Griswold, resident Engineer in charge.

I find the work steadily progressing, although not as rapidly as I could hope to see it, the force employed being reduced to meet the small amount of money at command to carry on the work.

The last crib required for closing the deep inlet has been placed in position and filled with stone, so that this inlet may be said to be closed.

The superstructure is being put on, and as soon as it is finished and the water shut out, the sand will come up and form the beach, as it has heretofore done, as rapidly as the work has been finished. I am pleased to say that the outer line of new beach, alluded to in my last report, continues to grow, and also, at the point of the beach and thence in the direction of the finished work, I find a very material change in the bar and channel of the new inlet; whereas it formerly passed out below Zeke's Island and diagonally across the inlet to the outer shore of Federal Point, thence some distance up the beach before crossing the bar, the channel now passes directly from the river in a straight eastwardly course, near the Federal Point shore, into the ocean, with an increased draft of water.

Whether this change results from the closing of Deep Inlet or from other and natural causes, I am unable to say; I can only state the fact, strange as it may appear.

It was our wish and intention to make soundings of the Rip of the main outlet, near Fort Caswell, but the weather and tide were unsuited, and I am unable to make any report at this time upon that subject, but hope to be able to do so in my next monthly report.

The experiments for collecting sand upon the low, flat beach, by means of brush, has proven partially successful,

collecting the sand only one to two feet in height. Some change in the plan, I believe, is contemplated, which it is expected will collect the sand more rapidly.

I see nothing discouraging in the prosecution of this work.

It is rarely the case that so important and difficult a work has been prosecuted with such signal success, for, although the weather was very unfavorable during the Winter and Spring, delaying the work somewhat, no mistake, error or serious disaster has occurred that I can hear of. May we not hope that this is but a foreshadowing of the final result.

Respectfully and truly, your obedient servant,

(Signed) H. NUTT, Chairman.

THE BAR IMPROVEMENTS.

The editor, by invitation, visited the works at New Inlet on the 8th inst., in company with Mr. Nutt, Chairman of the Committee of the Chamber of Commerce on this improvement, and in publishing his report we desire to unite with him in congratulating that body upon the successful progress of the work. We were as much astonished as gratified to see how much had been accomplished in so short a time and with insufficient means.

From the extreme northern point of Smith's Island the work has been completed upwards of six hundred feet, northwestwardly, towards Zeke's Island, following the line of the old works. Deep Inlet, over five hundred feet in width, and ranging from ten to forty feet in depth, through which an immense volume of water rushed, at the rate of eight or ten miles an hour, has been completely and securely stopped. The northern end of the unfinished work rests temporarily upon a portion of the old stone work, which has, in one or two places, withstood storms and tides

for twenty years. The sealing of this inlet is, beyond doubt, the most formidable difficulty to be overcome before reaching Zeke's Island. There are three other inlets between the work and Zeke's Island, but none of them are more than ten feet deep. Unless some trouble is met with in finding a good foundation in the inlet nearest Zeke's Island, which, though wide, is quite shallow, the completion of the work to that island will be comparatively easy and rapid.

The most gratifying feature connected with the progress of the work is that the sand follows close upon the workmen, and secures their laborsby imbedding the superstructure in front two-thirds of the finished work,and along one-half the distance in rear. An immense bed of sand has collected, coming up to the top of the superstructure, and forming in front a bank many hundred of feet into the ocean at low tide. We measured the depth of the water on the outside of the work, near the point lately finished, where, a few weeks since, a torrent forty feet deep rushed through, and we found it only about ten feet deep. In a month or two the sand will doubtless fill up to the top of the work.

Major Griswold has displayed an appreciation of the magnitude of the work he has in hand and the difficulties to be surmounted, and so far as we are competent to judge, comprehends the effect of his labors upon conflicting currents, which have almost destroyed the entrance to our river, and provided against the destructive action of the winds upon what he has finished. We are satisfied that he will make such further progress with the new appropriation, which is due next month, that Congress will very willingly make an additional appropriation next Winter to complete the work to Zeke's Island by the Fall of 1872.

The manner in which the work has been done reflects the greatest credit upon those in immediate charge. We hope our citizens generally will find opportunity during the Summer to visit the scene of these improvements.— We are sure that they would come away fully impressed with its magnitude and importance to our port, and satisfied that it can be successfully prosecuted. There is no

improvement in progress or contemplated that will add so much to the prosperity of Wilmington and this entire section, and we should do all in our power to further it. A failure now from the want of adequate means may, and probably will, be fatal to this enterprize for many years. The proper efforts upon our part can secure the necessary appropriation, and we must make them.—*Journal (Local) Editorial, June 13th*, 1871.

WILMINGTON, N. C., 9TH JUNE, 1871.

DR. W. W. HARRISS,

President Chamber of Commerce:

MY DEAR SIR:—As required by the Chamber, my regular monthly visit to the public works, near Zeke's Island, for the improvement of the Cape Fear Bar, was made yesterday, and it is with much pleasure that I am now able to report the perfect completion of the work across Deep Inlet, the northern end of the finished superstructure resting firmly upon the highest part of the old stone work at a point designated upon the plan of works as the cross, thus effectually sealing up this inlet in a substantial and permanent manner. When we take into consideration the formidable character of this work, an opening of about four or five hundred feet, requiring a superstructure of over six hundred feet lineal, by twenty feet wide and over forty feet high, to shut out or stop a current of water passing in and out at a rate of eight or ten miles an hour, and all of this to be accomplished within the short space of eight months, and at a cost within the sum of one hundred thousand dollars, I think I may safely be allowed to congratulate the Chamber upon the satisfactory manner in which the work has been prosecuted, and I trust that I may be pardoned for here expressing my appreciation of the skill and industry of the officers who designed and executed this great work. Owing to the mild weather of late and prevalence of Westwardly winds the

sand has not made up against the works so rapidly as in the earlier part of the season, when the weather was more stormy and the winds were from the Eastward. There is, however, a perceptible shoaling of the channels and holes in the vicinity of the works, and the formation of shoals outside and in front of the works, which will no doubt be brought up by the first heavy wind from the East. It is much to be regretted that very little work can be done this month, owing to exhaustion, or nearly so, of the first appropriation. Consequently the work must move very slowly until July, when the last appropriation becomes available. The experiments for collecting drift sand and thereby elevating the beach in the low parts of it, to which allusion was made in my last report, has not been made in consequence of financial deficiency. The first imperfect experiment has acted well and accomplished all that was expected of it, elevating the beach above storm tide, thus proving the feasibility of building up the beach to any desired height by judicious treatment at small cost.

The outer beach and outer shoals seem to be growing and forming in a manner altogether satisfactory.

During the past month a corps of engineers, under Capt. Junkin, (sent out by the Superintendent of the Coast Survey,) has been surveying the main entrance of the river, near Smith's Island and Fort Caswell, a report of which I presume will be made public before a great while, and which will settle the question of improvement, if any, in the draught of water upon the Bar and Rip since the commencement of the work of closing the deep inlet, more satisfactorily than any soundings which I can make.

I have, therefore, made no soundings since my last report, but rely upon a more accurate report of the officers of the Coast Survey.

I am, very respectfully, your obedient servant,

(Signed) HENRY NUTT, Chairman.

WILMINGTON, N. C., JULY 13th, 1871.

TO DR. W. W. HARRISS,

President Chamber of Commerce, Wilmington, N. C.:

DEAR SIR :—My usual monthly visit to the "Bar Improvement Works" was made yesterday. As stated in my last report, of the 9th of June, very little work was expected during that month, owing to the exhaustion of the appropriation for the fiscal year ending 30th June. Since the 1st July instant, the work has been vigorously renewed, and although some little delay was occasioned in re-organizing the hands, much has been accomplished in this short time. About one hundred lineal feet of crib superstructure has been placed upon the old stone foundation and partially filled with stone. In the meantime, sand shoals are rapidly coming up in front of the works, for their protection and security, while the narrow flat beach to the Southward is rapidly growing and strengthening. Everything seems to be progressing well, and much better than might be reasonably expected.

I am pleased to inform you that the Engineer in charge has considered the importance of securing the drift sand which may be collected on the low, weak parts of the beach, by means of brush fences and other obstructions, and placed a man in special charge of that department. As a matter of course, this is work which requires time to develope. Within the few days that he has been at work, various experiments have been made in propagating the native beach grass and weed from roots and cuttings, and also of the jointed cane grass, all of which appears to be doing well, and I trust will prove successful.

The new brush fence, alluded to in a former report, has not yet been completed, but I am informed it will be in a few days. The only comment which I propose at present, is, that the work looks very encouraging.

Very respectfully, your ob't serv't,

(Signed) H. NUTT.

WILMINGTON, N. C., 12th AUGUST, 1871.

To DR. W. W. HARRISS,

President Chamber of Commerce, Wilmington, N. C.:

SIR:—No convenient opportunity having presented itself at an earlier day, I made a visit to the public works, near New Inlet, in company with Major Griswold, the resident Engineer, this day.

In my last report, I stated that about one hundred lineal feet of cribs had been placed in position upon the old stone foundation, and partially filled in with stone. It now becomes my pleasant task to report the placing of the foundation of cribs up to the first channel, through the line of the old stone work, a distance of about two hundred and eighty feet from the cross, as designated in my June report, about one hundred and thirty feet of which is complete, with the finishing superstructure.

The channel above alluded to, which at the commencement of the work exhibited about eight feet of water, was found when reached by the workmen, to have cut out to a much greater depth. The rapid cutting out of this channel may be attributed, I think, to the contraction of the opening through which the water had previously passed concentrating it upon this point. This channel (which is not wide) is now being bedded with stone, preparatory to placing the foundation cribs across it.

This unexpected extra work has somewhat retarded a rapid progress; but, upon the whole, the work appears to be moving forward in a very satisfactory manner. The brush fence for collecting sand upon the low parts of the beach, is acting finely, and has already elevated the surface above storm tides wherever they have been placed.

The experiments in cultivating grass upon the bare beach have the appearance of proving successful. The native grass, found growing spontaneously upon these sands, and which I designate as beach grass, is found to bear transplanting generously, and I think will prove of much value in collecting the drift sand, as well as securing it, having strong lateral and fibrous roots, with a stout cane-like spike running up

some three to five feet above ground—putting out lateral roots at every joint as rapidly as the sand collects around it meanwhile shooting upward the main stem to its standard height, carrying with it its beautiful head of seed. This grass being of spontaneous production, seems peculiarly adapted by nature for just such positions, and only requires the hand of industry and skill to make it of incalculable value.

The beach, two to five miles south of the works, appears in a critical condition, in some places quite narrow, and cut out in trenches between the hills by the force of prevailing winds;—the water, during very high tides, finds passage across, and, if long neglected, the result is plain, without the gift of prophecy.

This condition of the beach may probably be attributable to the concentration of wind currents in their passage South and West over the open bay lying between Smith's Island and the mainland; and which has likewise had the effect (most probably) of producing a curvature in the coast line, which can only be checked by the cultivation of shrubbery for strengthening the beach.

It is perceptible that the volume of water passing out of the main or old outlet of the river, between Smith's Island and Oak Island, has been largely increased since the commencement of operations near New Inlet, and which seems to take the direction of the old Eastern channel, near Bald Head Point, where it is spread over various shoals, which may require dredging or plowing to concentrate the water into a defined channel, which no doubt it will soon scour out.

The chart of a survey of the main outlet of the river, made by Capt. Junkin in May last, by direction of the Coast Survey Department, has been received by Major Griswold, which exhibits a draft of nine and a half ($9\frac{1}{2}$) feet of water at mean low tide on the rip near Fort Caswell.

Respectfully submitted.

(Signed) HENRY NUTT, Chairman.

WILMINGTON, N. C., SEPTEMBER 2D, 1871.

TO DR. W. W. HARRISS,

President of the Chamber of Commerce:

SIR:—In accordance with the wishes of the Chamber, the regular monthly visit of your Committee to the public works for the improvement of Cape Fear Bar and River was made this day, and they are pleased to report the steady and successful progress of the work.

Since their last report, August the 12th, a most violent Northeast gale has visited our coast, producing some apprehension for the safety of the works, and during the month much rainy weather prevailed, retarding operations somewhat. From the violence of the storm some of the unfinished cribs and preparatory timber was displaced, which involved some loss of time and labor to place them in position again. This was successfully and speedily accomplished through the energy and skill of the Local Superintendent, and all is now going on well again. It is with much pleasure that they are enabled to report the perfect safety and security of the finished work, for, notwithstanding the storm was one of unusual violence and duration, from the Northeast, and the ocean water elevated much above its ordinary level, having full and unobstructed sweep, was brought against the works with great force, no injury whatever was sustained; not a timber or plank was moved from its position, thus proving the adaptability of the plans designed for a successful prosecution of this great and important work. They here beg leave to call your attention to the fact that while the Engineers and operatives have done all that flesh and blood could do under the circumstances, they nevertheless labor under grievous disadvantages for the want of means to employ a sufficient force to guard and protect exposed and weak points ahead of their work while they are advancing and securing the general line; for experience has shown that as the volume of water passing in and out of these openings is checked, or shut out, its passage being contracted, it is thrown with greater force upon the weaker points, cutting

them out very rapidly, entailing a greater expenditure of money, time and labor for securing them afterwards.

So you will readily perceive that the officers in charge of this work, with the best intentions, are obstructed and tied down to a limited monthly expenditure, thereby restraining them in rendering to the Government as valuable service as they might otherwise do, and postponing the period of inscribing their own names in the niche of fame. The shoals in the vicinity of the works have somewhat changed their positions, but this is by no means prejudicial to them. A portion of the sand in front of the work has been thrown over and back of it, which is rather an advantage, as more sand will no doubt soon take its place in front. Zeke's Island is somewhat changed, indicating an increased low water area, while its high water area appears diminished. There is some appearance of an increased depth of water in the small inlet next south of the Island, though I had no means of determining this fact. The outer shoals seem to increase, and the point of beach extending northward in front of the work, while the beach south is evidently and perceptibly growing. The catch sand fences have proven successful, not a rail was removed by the storm, and the brush has been completely covered with sand to the top of the fence, presenting an embankment three or five feet high, and, of course, far above the reach of any tide. This and the weak parts of the beach, where the wind has blown out trenches between the hills, are now being strengthened by a system of cultivating the beach grass. This grass bears transplanting well; none of that which was set out in July and August has died, but all is growing and doing finely, and I think will bear transplanting at any season of the year. Where planted, it has not only successfully resisted the blowing away of sand, but has already collected it in many places a foot or over in height. The Major has been fortunate in securing the services of a competent man in this department, who seems to understand his business, and I hope is doing valuable service, which time alone will demonstrate.

Having no opportunity of visiting the lower harbor and

main inlet, your Committee have nothing to add to their August report in that direction. In conclusion, they beg to state that thus far in the progress of the work everything has worked well; there have been no mistakes or blunders, no waste of time or money, and the prospect ahead is flattering. Everything now depends upon the good sense and liberality of Congress in making the necessary appropriations for the early and successful completion of this noble enterprise. The gentlemen in charge of this work seem fully alive to its varied complications, its difficulties, magnitude and importance, and are working like beavers to inscribe their names high on the roll of fame, and should they be so fortunate as to merit it by a full and complete accomplishment, none will rejoice more than

Your humble servant,

H. NUTT, Chairman.

WILMINGTON, N. C., 30TH SEPTEMBER, 1871.

To WM. W. HARRISS, ESQ.,

President of the Chamber of Commerce:

SIR:—The usual monthly visit of your Committee to the public works, near New Inlet, for the improvement of Cape Fear Bar and Harbor, was made yesterday, in the company of Major Griswold, Mayor Martin and others.

In appearance the work has made very little progress, but remains apparently in the condition in which it was left on the occasion of their last report a month ago; the labors of the Superintendent having been directed exclusively to hardening the bottoms of the small openings through the line of old stone work, to prevent further washing out as the work proceeds, and of leveling up the same with stone to receive the cribs and finishing superstructure.

This work is all under water, of course out of sight, and to the casual observer, affords little appearance of progress; whereas, a large amount of necessary labor and expense has

really been accomplished, this extra labor and expense being necessitated by the limited amount of means allowed for prosecuting the work with economy and dispatch.

It is expected that in a short time this precautionary preparation will be complete, when the regular work of finishing up the line will proceed as heretofore.

It is perceptible that the water is shoaling in the vicinity of the works on both sides of it, and the outer shoals are evidently moving up, as it were, in a body. The point of beach is extending Northward, and in front of the work. The inlet South of Zeke's Island seems not to be affected, as its depth of water is still maintained, while the Island itself is gradually wearing away, and is almost entirely covered with water by high tides. The catch sand fences are operating very well, and form a good nucleus for building up the beach uniformly, while the beach grass, which is being planted, and which seems alive and growing well, does much towards strengthening the beach against incursions of the wind, as well as collecting and securing the sand.

The breach across Bald Head Point, in rear of the old jettie, is progressing. A very strong outward current is here formed by the river water, which seems to take the direction of the Eastern shore; and, its abrasion upon the soft earth of the point being more effective than upon the hard bottom of its channel, the point is rapidly wearing away, instead of deepening the channel.

Respectfully, your ob't serv't,

H. NUTT, Chairman.

WILMINGTON, N. C., 9TH NOVEMBER, 1871.

COL. W. L. DEROSSET,

President of the Chamber of Commerce:

SIR:—Your Committee, to whom was referred the subject of "Bar and River Improvements," visited the works on Tuesday last, the 7th instant, and ask leave to report: That

since their last report a month ago, there is very little *appearance* of progress, the work being confined to securing a foundation for the break-water, which is now nearly complete. The work of placing the finishing superstructure has commenced, and we trust our next report will exhibit a considerable amount of finished work. We are pleased to report that the sand has been brought up against the break-water, entirely across the deep inlet to high water mark, and the beach has been formed from the outer edge of the abutment at the cross, or southern end of the old line of stone work, almost in a straight line to the outer point of beach, thus filling the deep inlet and effectually securing the break-water. This is a most flattering result, the magnitude of which can only be understood when we state that this was an inlet about six hundred feet wide and thirty to forty feet deep, with an eight to ten knot current.

The beach is extending northward, from which a line of shoals is apparent in the direction of Zeke's Island, some distance in front of the break-water line.

The catch sand fences and grass cultivation are perfectly satisfactory.

We find growing upon the beach two distinct varieties of grass, but somewhat similar in character, designed, no doubt, by nature, for collecting and binding the drift sand of such localities, being of humble appearance, and seemingly suited to no other purpose. Not knowing the name of either, we shall designate them as "*Matt Grass*" and "*Carolina Beach Grass.*" Not having seen the former in bloom we are unable to determine positively, but as it bears some of the characteristics of leaf and root described of the "*Matt grass*" of England and Scotland, (where it is so highly valued as a seacoast defence as to be recognized by the Government of Great Britain and nationalized by special act of Parliament for its protection,) we think it the same, and shall so treat it for the present.

We find this grass was known and cultivated as a seacoast defence at Provincetown, (Cape Cod,) in Massachusetts, as early as 1812. It has likewise been cultivated with success

upon the sands at Lowell, and still further up on the banks of the Merrimack river.

We also find that this grass is not unknown to the Government of the United States, for, between the years 1826 and 1839 Congress appropriated twenty-eight thousand dollars, which was expended in setting out this beach grass near the village of Provincetown, for the protection of the harbor. And again, as late as the year 1854, five thousand dollars were *wisely* expended by the General Government in adding to the work. So this grass seems to have had a national reputation even in this country, and the precedent is here established for its cultivation upon our coast, where it is much needed. The "*Carolina beach grass*," alluded to above, we can find no description of. It differs from the "*Matt grass*" in that it has a stout, rigid cane-like culm rising three to five feet above ground, long, flat leaves, and spreading pannicle, putting out strong, lateral roots from every joint as soon as the sand reaches it; in the meantime the culm is pushed upward, and is consequently always out of the way of an extraordinary drift of sand. The roots are stouter than the Matt grass, having the same peculiarity of spreading, producing tubers, from which issue new shoots or plants, and possessing many advantages over the Matt grass. As a collector and binder of drift sand we know of no superior, and this is the grass adopted for cultivation upon our beach by the Engineer in charge of the work, and from which (if continued) we may reasonably expect valuable results.

It will be remembered that, as yet, no special appropriation has been made for this object.

In view of the importance of restoring, preserving and protecting this valuable harbor, its magnitude, the many and varied complications surrounding the operations of a successful, economical and early completion of the work, your Committee feel that they cannot too strongly urge upon the Chamber the necessity of using all lawful means, leaving no wheel unturned to procure from the next Congress a sufficient appropriation to enable the Engineer in charge

of this work not merely to complete the break-water now in course of construction, but likewise to enable him to *command the situation* according to his own judgment and discretion in all its varied complications, as contemplated in the general plan of operations, such as strengthening weak points, removing obstructions, dredging proper channels, &c.

All of which is respectfully submitted.

(Signed) H. NUTT, Chairman, &c.

WILMINGTON, N. C., 14th DECEMBER, 1871.

COL. W. L. DEROSSET,

President of the Chamber of Commerce, Wilmington, N. C.:

SIR :—The monthly visit to the public works for the improvement of Cape Fear River and Bar was made by your Committee on Wednesday of last week, the 6th inst. Since their last visit, on the 7th of November, about one hundred and fifty (150) lineal feet of the line of breakwater has been finished, and about one hundred and twenty-five (125) feet more pretty well advanced towards completion, which will be finished in a few days.

During the past few months a succession of storms has prevailed upon the coast, accompanied by unusually high tides, involving some loss of time, labor, and materials, and also some change of operations ; and as this report may not be clearly understood as harmonizing strictly with former reports, we recapitulate.

Since the commencement of the work, about nine hundred (900) lineal feet of breakwater has been permanently fixed and completely finished, one hundred and twenty-five (125) feet more nearly finished, besides a considerable amount of work done in securing the foundation for the advancing breakwater. In the meantime, the floating sand of the ocean has steadily followed the work as finished, and settled into a firm beach in front of the breakwater, two to four hundred feet wide, thus securing the stability of the works against almost any contingency.

The violent Southeast gale, of the 10th of November, accompanied by the extraordinary tidal-wave of five to seven feet above ordinary tides, swept away a portion of the front of Smith's Island beach, south of the work, but we are pleased to say that it is now rapidly making up again.

And we are further pleased to note the perfect success and utility of the catch sand fences and grass cultivation, neither of which was damaged, but resisted without injury both storm and tide; and we cannot but esteem it as most fortunate that the work of building up and securing the beach was commenced as early as it was, *but* for which the probabilities are that a large portion of the beach would have been swept into the river by the late storm and tidal-wave.

Your Committee beg leave to express their gratification at the wonderful success which has thus far attended this work, and the great accomplishment with the limited means at command.

It is to be hoped that the attention of Congress may be directed to a more liberal appropriation for vigorously prosecuting this important work.

All of which is respectfully submitted.

(Signed) H. NUTT, Chairman.

WILMINGTON, N. C., 8TH JANUARY, 1872.

COL. WM. L. DEROSSET,

President of the Chamber of Commerce, Wilmington, N. C.:

SIR:—On Friday, the 4th instant, your Committee visited the public works near New Inlet for the improvement of the Bar and River. Teey also walked some five or six miles down the beach toward Smith's Island, to see the condition of the beach in that direction, as well as to see the effect of the catch sand fences, and examine the progress of the grass culture.

As anticipated in their last report, very little work has been done during the past month, owing to the holidays inter-

vening, and the usual loss of time in closing up the affairs of one year and commencing another.

Of the one hundred and twenty-five feet of unfinished work alluded to in our last report, about fifty feet have been finished;—work is also progressing on the line of breakwater. This is about all which appears to have been done during the past broken month. Nature, however, continues her work of enlarging the beach, and bringing up the shoals, to secure and strengthen the breakwater as fast as it can be finished.

The catch sand fences have accomplished more than was expected of them, having elevated the beach four to seven feet high, and several thousand feet in length. Wherever the brush fence is placed, the beach makes up immediately to it, and if the means were at command the whole beach could very soon be secured.

The grass cultivation has had no opportunity as yet of displaying its real value to the casual observer, (no growing season having been reached since its commencement,) but with your committee, who have watched its progress, the utmost confidence is established in its ultimate success.—When planted, it puts out roots immediately, taking firm hold upon the surrounding sand, which it secures, collecting the blowing sand as high as its tops will permit; and we think the beach will build up just as fast as the grass grows. To your committee at least, therefore, the growing season of the next six or eight months will be one of much interest.

We feel constrained, though reluctantly, to bring to your notice the critical, we may say dangerous, condition of that portion of the beach lying next to Smith's Island, and extending up above the lower pilot look-out. In several places the beach or ridge of sand (not high) does not exceed thirty feet in width at high tides; and at other places, the beach being low and flat, the ocean waves make a clean sweep across at extreme high tides, and it is simply wonderful that a permanent opening has not long since been effected.

This danger being remote from the field of operations, no doubt has escaped the notice of the Engineer in charge of

the works. We therefore deem it necessary only to intimate these facts. We believe, however, he has already taken the preliminary steps to secure these points.

We here beg leave to state incidentally, as matter of information for the Chamber, that a corps of Engineers from Charleston, under Gen. Ludlow, has been examining the site and surroundings of Fort Anderson, for what purpose we are not advised; and also another corps, under direction of the Superintendent of the Coast Survey Department, are making surveys of the harbor and its entrances as high up as Federal Point, and which it is expected to complete in a few days.

The visit of the Commission appointed to investigate matters relating to our harbor, expected here on Tuesday, the 9th instant, has been unavoidably deferred. Conjecture only is left us that it is temporary, and that very soon we shall have the pleasure of greeting their arrival.

All of which is respectfully submitted.

(Signed) H. NUTT, Chairman.

BAR AND RIVER IMPROVEMENTS—OUR MERCHANTS.

We publish elsewhere the monthly report of the Committee of the Chamber of Commerce, upon the condition of the Government works at New Inlet, submitted to that body by Mr. Henry Nutt, the Chairman of the Committee. It is unnecessary for us to point out the value of these reports and the favorable influence they are having in official circles. Every minute particular, with which they abound, gives to the proper department the very information which is most desired.

It is hardly necessary for us to refer to the importance of the works now in progress, looking to the improvement of

our bar and river. Those who are familiar with the business of our city know that the want of water is the great barrier to the rapid improvement of Wilmington. If the draft of water upon our bar and in the channel of the river could be doubled, the commerce, wealth and population of our city would be doubled also. We have now direct communication with Augusta and the upper portions of South Carolina, and will soon be in direct communication with the interior of our own State by the completion of the Wilmington, Charlotte and Rutherford Railroad. Other railroads are contemplated and will be built, and others not now spoken of will be projected and finished, if the works at the mouth of the river are successfully pushed forward.

Railroads are now projected, and, indeed, several are being pushed Eastward, to connect Cincinnati, Louisville and Memphis with the Atlantic. The geographical position of our city is most favorable for this connection, and our large lumber business with the West Indies renders our port the best adapted to supply the Mississippi and Ohio Valleys with the products of these Islands. The want of water upon our bar and in our river will prove a fatal barrier to this business unless it is removed.

Can it be done? Can we prepare our port to do its full share of the vast business which must soon burst through our Western mountains and seek the Atlantic? Charleston and Norfolk, on each side of us, are preparing. They are going out to meet it and divide it between them. We will certainly lose it if we lie supinely upon our backs. The rapidly increasing business of the West must have new channels. The railroads to New York and Baltimore are too long; the river to New Orleans is unreliable, and transportation is too slow. And, indeed, there will soon be business enough to over-crowd all their present modes of transportation. Direct and short connection with the Atlantic must be had.

We think it has been demonstrated that our bar and river can be improved. Considering the means at hand, Major Griswold, the Engineer in charge, has worked wonders. The

progress he has made, the work resisting, in its unfinished state, the fury of some of the wildest storms which have ever visited our coast; nay, its strength and durability is increased by their action, shows him not only capable, but "master of the situation."

We are satisfied, from personal inspection of the work, from the monthly reports submitted to the Chamber of Commerce, and from the judgment of scientific men, that with sufficient appropriations New Inlet can be closed, and the water on the lower bar increased to almost its original depth.

If this, indeed, be the great barrier to our progress, it becomes the duty of every citizen to use his best exertions to remove it. Other cities and States are getting vast appropriations to rebuild public buildings, to increase public works, to improve harbors and rivers, and our claims are equal to the best. It has been our experience that those who have been modest in pushing their own interests have been overlooked and neglected.

The question occurs, who are the proper persons to promote our interests in this behalf? Every one will say that the merchants of Wilmington can do more, by proper action, than all others.

We know that when bills are to be passed in the Legislature or Congress, public men are expected to assist in their passage. Merchants, ordinarily, pay little attention to such matters, and are apt to forget that they have any consideration in such bodies. They underrate their own influence too frequently. We are satisfied that in securing an adequate appropriation for our bar improvement that the Chamber of Commerce of this city can do more than all the politicians of the State combined. Let them assemble together and draft a petition setting forth the progress made and the advantages in a commercial and naval point of view its completion will give; let a committee from the Chamber visit the merchants of New York, Philadelphia and Baltimore, and secure their endorsement and co-operation, which will be readily given. Then let the appeal be made to Congress.

Fortified with these mercantile endorsements and aided by the presence of several of our leading merchants, we will warrant that Colonel Waddell, our member of Congress, will have little difficulty in getting an appropriation sufficiently large to place the enterprise beyond the chance of failure.

Is it not worth an earnest and faithful trial? We submit the proposition to our merchants and leave it to their candid consideration. A commission of distinguished Government officials will soon visit the works at New Inlet and submit a report. If it should be favorable, and we have no doubt on that score, it will be the best opportnnity for our merchants to act. Let their petition follow this report. Who doubts that their efforts will be crowned with success?—*Journal Editorial, January 2d*, 1872.

WILMINGTON, N. C., 8th FEBRUARY, 1872.

COL. WM. L. DEROSSET,

President of the Chamber of Commerce:

SIR:—Your Committee have had no opportunity of visiting the works near New Inlet for the improvement of the harbor, and consequently are unable at present to make their usual monthly report upon the situation and progress of the work. They hope to be enabled to do so in a few days.

The Board of Engineers to examine our harbor, and the works now in progress for its improvement, alluded to in our last monthly report, consisting of Generals Z. B. Tower, Q. A. Gilmore, J. G. Foster and H. G. Wright, accompanied by Col. Wm. P. Craighill and Capt. C. B. Phillips, arrived on the evening of the 23d of January last.

On the 24th, they, with a number of our merchants and other citizens, made an excursion down to the works, to Federal Point and Fort Fisher, on board the U. S. Revenue Cutter Seward, Capt. Carson, tendered for the occasion through the courtesy of D. Rumley, Esq., Collector of the port. The

25th was also spent down the river, on Smith's Island, Bald Head, and Fort Caswell. The weather on both days was very fine, and to the courteous attentions of Capt. Carson and his officers are we indebted for a most pleasant time.

We are, of course, in ignorance as to the conclusions arrived at by the Board, but entertaining the utmost confidence in its ability to comprehend the true situation, as it was, is now, and what it may be again, and in its integrity and kindly feeling to recommend the proper appliances for restoring the harbor. We feel assured that its report will be satisfactory.

We herewith submit a letter from Col. Craighill, returning the thanks of the Board of Engineers to the Committee and Chamber for courteous attentions, and for facilities afforded them in the performance of their duty of examining the river below Wilmington, and discussing the subject of its improvement, on the occasion of their visit on the 24th ult.

Through the thoughtful consideration of Mrs. General Whiting, your Committee and the Chamber have been placed in possession of a commercial statement made in 1815 by Joshua Potts, and for which we feel greatly indebted;—and also to Major M. P. Taylor for a similar statement made in 1843 by the late Robert W. Brown. These statements, while they present interesting features in the articles of production and export, and the manner of transacting business in those days, contain items of importance in the early history of the Cape Fear.

From a comparison of these two statements, it will be seen that the draught of water upon the New Inlet Bar was identically the same—11½ feet at high tide—at both dates of 1815 and 1843, while the water upon the Main Bar had depreciated three (3) feet in the twenty-eight years intervening. The Western Bar, now in use, is not alluded to by either. The draught of water upon the Flatts below Wilmington, near Big Island, was identically the same—11½ feet—at both dates, proving that the operations for improving the channel by the State, under Fulton, and those by the General Government, under Capt. Bache, between the years 1820 and 1830, had effected no improvement to navigation, supposed to be owing to the old obstructions.

In his statement in 1815, Mr. Potts says: "Unfortunately, a couple of years since the sea encroached on the shore, and destroyed the Lighthouse; and within a few years an angle to the westward has been formed in that part of the channel which was formerly straight, by which circumstance the navigation over the Main Bar has become more difficult."

We here have the date of the destruction of the old Light-House fixed at 1813, and the cause of it, with some facts for reflection by Engineers upon the conflicting currents of the ocean and river.

Respectfully submitted.

H. NUTT, Chairman.

WILMINGTON, N. C., FEBRUARY 12th, 1872.

COL. WM. L. DEROSSET,

President of the Chamber of Commerce:

SIR:—The regular monthly visit of the Committee on Bar and River Improvements to the works near New Inlet, was made on Saturday last, the 10th instant.

They found the work progressing as satisfactorily as the means at command would seem to justify. Since their last visit on the 11th of January, there has been about two hundred and fifty (250) feet of the breakwater finished, aggregating about twelve hundred (1,200) feet of the breakwater ar completely finished up to this time; some unfinished crib work not estimated. Besides, (as we learn from enquiry,) there has been about eight hundred (800) feet of preparatory work done in filling up of the various slues (which have cut out) with stone, and leveling up to low water mark the line of the permanent breakwater, which will greatly facilitate future operations.

The beach in front continues to follow the work as rapidly as completed and the current is checked.

The succession of heavy storms upon our coast of late, accompanied by unusually high tides, has had the effect of wearing the beach to some extent, particularly at the outer

point or turn of it, and blowing the sand from exposed and unprotected situations, while those parts where catch sand fences have been placed, and grass planted, little or no damage has been sustained, but rather benefited by collecting and holding the drifting sand.

We can make no satisfactory statement in regard to Zeke's Island, which was entirely covered by the high tides, or of the Inlet south of it, as we have no means of determining whether they are being damaged or otherwise. We can only see that an immense amount of sand is brought inside through the Inlets, and deposited in the river and bay, and there can be little doubt of large quantities being carried down to the lower harbor and its outlet.

Should the present Congress think proper to make the requisite appropriation for a more vigorous prosecution of work upon the breakwater, and at the same time upon the several combinations which seem to be necessary for effecting good results from the work, we have no doubt it will prove, in the end, the surest economy, and we shall much sooner be enabled to reap the rich benefits inevitably flowing from it.

Your Committee acknowledge its inability to perceive the wisdom or economy of frittering away large sums of money in prosecuting complicated works so sluggishly as to admit of rapid damage to weak points of the combination, equal, in some instances, to the amount of work accomplished, which might be avoided, and the work greatly economised, by the more judicious course of prosecuting it with energy, and a proper forecast in suppressing injurious effects upon weak points at the same time, or in advance of the main work. Hence the necessity of urging upon Congress the importance, the wisdom, the real economy, of placing at the command of the Engineer in charge a sufficient amount to conduct the work, as circumstances may arise to require it, and as his own judgment may dictate. No apprehensions need be entertained that the money will be squandered, his judicious and successful management thus far is ample assurance that there will be no waste of time or money.

Respectfully submitted.

(Signed) H. NUTT, Chairman.

WILMINGTON, N. C., March 11th, 1872.

Col. Wm. L. DeRosset,

President of the Chamber of Commerce:

Sir:—The monthly visit of your Committee to the harbor improvements, near New Inlet, was made on Thursday last, the 7th inst.

It will be remembered that during the past month, Cape Fear river has been visited by an extraordinary freshet, the water rising to an unusual height, so much so that during its existence the water at the works was not reduced at low tide more than eighteen inches below the line of high water mark. As a matter of course, very little work could be done during this condition of affairs. Add to this a continuance of stormy weather during nearly the whole month;—one storm of great violence, which lasted for four days consecutively, the wind blowing all the while from one direction, was well calculated to result in damaging effects. Strange as it may appear, however, we are pleased to say that no damage whatever was done to any part of the work, either of the breakwater, the brush fences, or the grass which had been planted. Everything is intact, as though no storm or high tide had occurred, while there are indications of considerable damage to the exposed and unprotected parts of the beach.

The simple statement of these facts we feel to be the strongest commentary at our command upon the utility and stability of the works now progressing.

Work upon the break-water is progressing satisfactorily under the circumstances, and considering the small amount of means allowed to progress with.

Quite an amount of foundation work has been done, although only about thirty or forty feet have been completed by the finishing superstructure. The beach in front continues to follow up the work, and the flats of the bay inside of the work is rapidly filling, so that it is difficult to get a small boat to the beach from the river, except at high tide.

We here desire to call attention to an *apparent* change going on in the current of the main New Inlet, which now seems to take a southeastwardly direction from the inner

shore of Federal Point, diagonally across the inlet, outside of the outer point of Zeke's Island shore, moving in a somewhat parallel line to Smith Island beach, throwing up in its passage a reef or line of shoal from the outer point of beach to Zeke's Island.

How this change of current (if correct) will affect the present plan of operations we are unable to say, and if we were, it would be exceeding our province to speak. If prejudicial, the Engineer in charge will very soon discover it, if he has not already done so.

There is still another matter to which we deem it proper to call the attention of the Chamber. It appears from the chart of a survey made last summer by Capt. Junken, of the U. S. Coast Survey, and under its direction, that there then existed upon the Rip across the Western channel of the main outlet of the harbor, near Fort Caswell, nine and a half ($9\frac{1}{2}$) feet draught of water at low tide, the benefits of which, as yet, have not been made available. This passage appears narrow and not exactly straight, and can only be rendered available by the addition of two or three buoys judiciously placed.

And again, we are informed (unofficially of course) that the volume of water now passing the main outlet of the harbor, being largely increased by the construction of the breakwater near New Inlet, and taking the general direction of the Eastern or old main ship channel on the Bald Head side of the outlet, is perceptibly wearing a channel through the outer bulk-head on Reeper Shoals, and that ten (10) feet draught can now be obtained across it at low tide. If these reports should prove true, (and we suppose the facts will soon be developed by the officers of the Coast Survey now at work upon this outlet,) we can see no good reason why our commerce should not have the benefit of any improvement in the navigation, and as rapidly as such improvement is made, by having the channels properly marked by buoys.

All of which is respectfully submitted for your consideration.

(Signed) H. NUTT, Chairman.

HARBOR IMPROVEMENTS.

In company with Henry Nutt, Esq., Chairman of the Committee of the Chamber of Commerce, we visited on Monday last the works for the improvement of our harbor. As our readers know, the object of these works is, by diminishing the water at New Inlet, to increase that at the mouth of the river. The first step in the prosecution of this work was to connect Zeke's Island with the northern end of Smith's Island beach. The gap between the two points was about forty-five hundred feet in width. Twelve hundred and sixty-three feet of this gap have been crossed by means of substantial cribs, filled with stones and rocks, and covered with heavy planking. In addition to this, a distance of one hundred and thirty feet has been cribbed and is ready for planking, and rocks have been sunk, and are now ready for cribbing, including the remains of Captain Woodbury's work, for a distance of about four hundred feet;—all of this will be completed by 1st May. The depth of water between the end of Woodbury's work and Zeke's Island is only about seven feet at high water, and offers no difficulty to be overcome. The great work of connecting Zeke's Island with Smith's Island beach has already been accomplished. A channel of six hundred feet wide, and for five hundred feet of this width between thirty-five and forty feet deep, has been closed up in such a manner as to resist the violence of the most terrific storms.

The beach from Smith's Island has followed the work, and will doubtless continue to do so until the connection with Zeke's Island is established, increasing in width and height.

In order to complete the work, another appropriation from Congress is absolutely necessary. If the amount asked for, $150,000, be granted, the work will be carried across Zeke's Island during the next fiscal year.

Smith's Island beach, the long narrow strip of land between the Ocean and Buzzard's Bay, is being perceptibly strength-

ened, by means of brush fences and the "Carolina Beach Grass."

The brush fences are nothing more nor less than parallel lines of rail fences filled in with brush. The sand has accumulated along these fences to such a height that the "riders" only are now visible.

The grass was set out in parallel rows last Summer and Fall, and during the Winter just passed, and in that short time even has plainly developed its capacity for holding the sand.

No one who stood on Monday upon the work, and remembered the surging volume of water that only a few months before rushed beneath the very spot on which he was then standing, can doubt the practicability or success of the work. Nor can there be any doubt of the beneficial effect upon the navigation of our noble river.

Upon the success of the efforts to improve our river and harbor depend, in our opinion, in a great degree, the future welfare and prosperity of the city of Wilmington.

The business of transportation of both freights and passengers has been of recent years reduced to a system adapted to the wants, necessities, and geographical conformation of the country as a whole. There are a comparatively few great main lines with innumerable side lines or feeders.

The termini of all main lines running East and West are the Atlantic and Pacific Oceans. The necessities of the country demand at least two of these main interoceanic lines. Why should not Wilmington be one of the Atlantic termini?

But we are unwilling to give expression to the bright hopes of the future we anticipate for our goodly old town. But whether that success be attained in full or scant measure, the name of Henry Nutt will, and ought to be, held in grateful remembrance by all our people to the last generation, as the earnest, persistent, and enthusiastic friend of this great work.—*Journal Editorial, March 20th*, 1872.

...der
Gaylord Bros.
Makers
Syracuse, N. Y.
PAT. JAN 21, 1908

UNIVERSITY OF N.C. AT CHAPEL HILL
00030753140

THIS TITLE HAS BEEN MICROFILMED

This book must not be taken from the Library building.